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The Candy Industry

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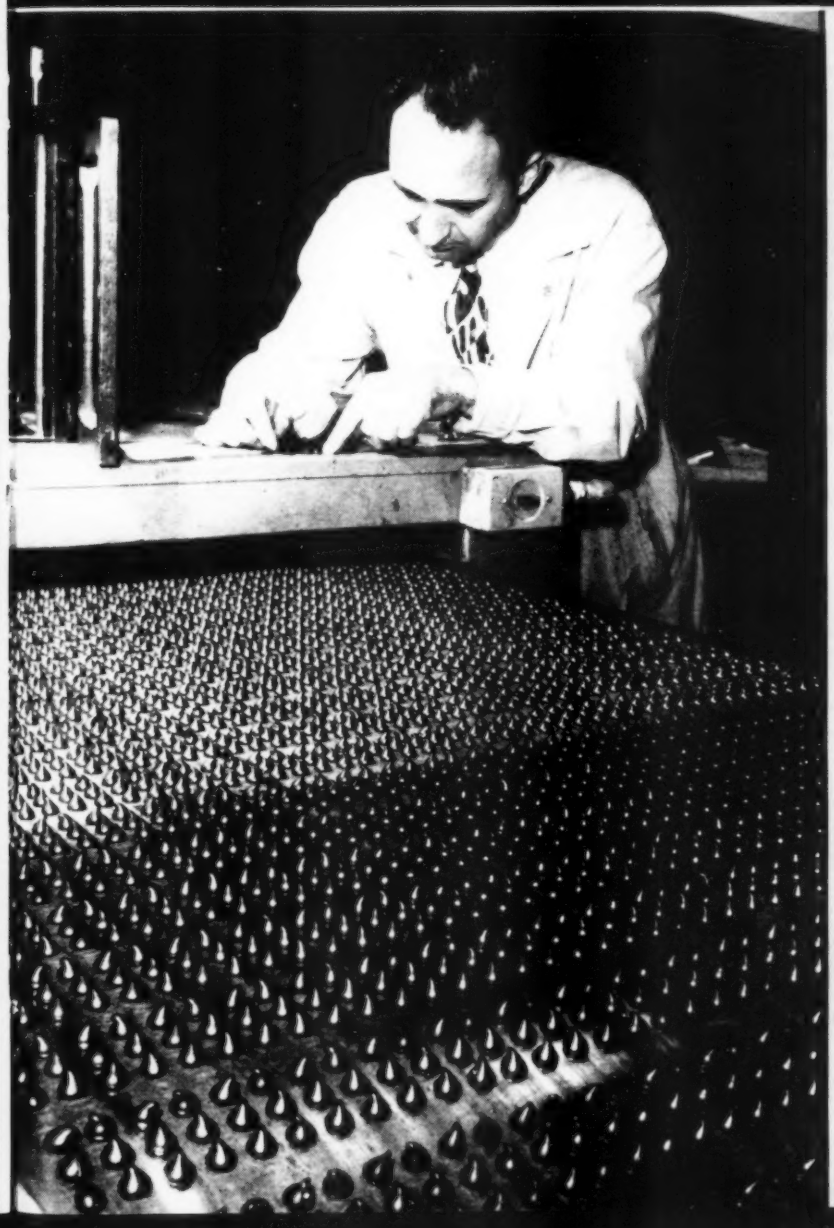

Complete NCA Convention Program, ARC Program, and Directory of NCA Exhibitors

PMCA and Lehigh University host to production executives, a round up of technical talks

Sales Clinchers—Point of Purchase Displays: as used by confectionery retailers

JUNE
1951

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The Manufacturing Confectioner

READ WHEREVER CANDY IS MADE

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Cover: Thousands of Baker's Chocolate Chips moving along a conveyor belt.

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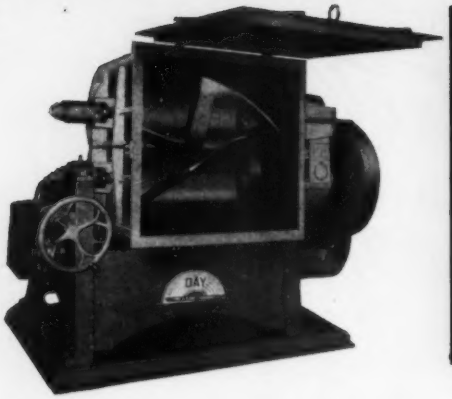
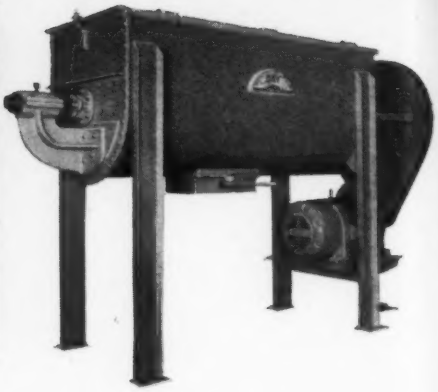
Published Monthly on the 5th by **The Manufacturing Confectioner Publishing Company,** publishers of **The Manufacturing Confectioner—The Blue Book—The Candy Buyers' Directory—Candy Merchandising.** Executive offices: 9 South Clinton Street, Chicago 6, Illinois. Telephone FRanklin 2-6369. Eastern offices: 303 West 42nd Street, New York City 18, N. Y., Telephone Circle 6-6456. Publication Office: Pontiac, Illinois. Copyright, 1951, Prudence W. Allured. All rights reserved. Subscription price: One Year, $3.00. Two years, $5.00. Per copy, 35c, except September "Purchasing Executive Issue": $2.00. In ordering change of address, give both old and new address. Entered as Second Class Matter, April 20, 1939, at the Post Office at Pontiac, Illinois, under the Act of March 3, 1897. Member: National Confectioner's Ass'n. Western Confectionery Salesmen's Ass'n, National Candy Wholesalers Ass'n, Audit Bureau of Circulations. Foreign Subscriptions: One Year, $4.00. Two years, $7.00. Canadian Subscriptions: same as U. S.



4 WAYS You Can Boost Production



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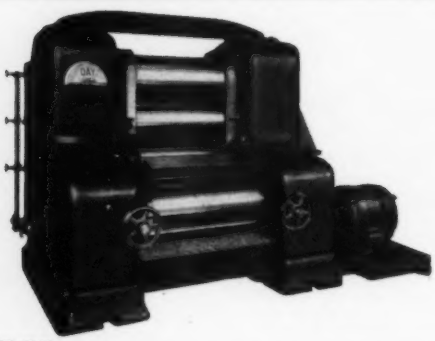
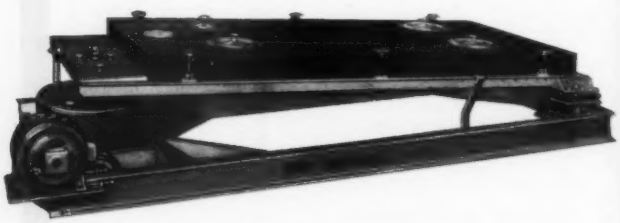
are specially designed for compounding powdered materials of all types and for such granular products as soft drink flavoring for home use. Available with special or spiral ribbon agitators for heavy-bodied powders or granular materials. Sturdy outboard bearings, rigid frame and geared head motor with silent chain drive assure dependability.





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Confectionery Industries
Exposition
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June 4-5-6-7

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THE J. H. DAY COMPANY, CINCINNATI 22, OHIO
INCORPORATED

NCA Convention Program

Held at Stevens Hotel, June 3, 4, 5, 6 and 7

Sunday, June 3

5:00 p.m. to 7:30 p.m.—NCA Sunday Get-Together, Grand Ballroom, (admission by ticket only). Refreshments, Music, Dancing. Chairman, Max L. Gartner, Fascination Candy Co., Chicago, Ill.

Monday, June 4

9:00 a.m.—NCA Golf Tournament, Olympia Fields Country Club, Chicago, Illinois. Chairman, O. Walter Johnson, The Callerman Co., Chicago, Illinois.

12 Noon—Official opening of 25th Confectionery Industries Exposition, Exhibition Hall. Chairman, David P. O'Connor, Penick & Ford, Ltd., Inc., New York, N. Y.

Tuesday, June 5

Morning Session • *North Ballroom*

9:30 a.m.—Film.

10:00 a.m.—Official opening of the NCA 68th annual convention by Philip P. Gott, president of National Confectioners' Association.

10:05 a.m.—*What the* 1951 *NCA Convention and Exposition Offers You.* Convention chairman, Victor H. Gies, Mars, Inc., Chicago, Ill.

10:15 a.m.—*Do Candy Manufacturers Win the War and Lose the Peace? Program Chairman, Frank K. Gleason,* E. J. Brach & Sons, Chicago, Ill. Participants: Victor H. Gies, Mars, Inc., Chicago, Ill.; Cecil H. McKinstry, Imperial Candy Co., Seattle, Wash.; Irvin C. Shaffer, Just Born, Inc., New York, N. Y.; George H. Williamson, Williamson Candy Co., Chicago, Ill.
Questions and Answers

11:20 a.m.—*Increasing Sales Under Mobilization* by Richard N. Heath, Leo Burnett Co., Chicago, Ill.

12:30 p.m.—Opening Luncheon, Grand Ballroom. Presiding is Victor H. Gies, Mars Inc., Chicago, Ill.
Invocation
Introduction of honored guests and tribute to the distributors of candy. *Reaching the Hearts and Minds of Men* by James A. Farley, Chairman of the Board, The Coca Cola Export Corp., New York City, N. Y.
Adjournment.

Evening Session • *North Ballroom*

7:30 p.m.—Film.

8:00 p.m.—*Candy Production In A Mobilization Economy.* Presiding: G. Lloyd Latten, Schutter Candy Div., Universal Match Corp., Chicago, Ill. *Streamlining Your Production Line. Shortages of Raw Materials and Alternates* by James A. King, Nulomoline Div., American Molasses Co., New York, N. Y.

9:00 p.m. to 10:00 p.m.—*Plant Sanitation In A Mobilization Period.* Presiding: Charles F. Scully, President, Williamson Candy Company, Chicago, Ill. Gerald S. Doolin, Sanitation Director, National Confectioners' Association.
Questions and Answers

Wednesday, June 6

Morning Session • *North Ballroom*

Presiding: Paul W. Sandell, Miss Morris Candies, Minneapolis, Minn.

9:30 a.m.—*Film.*

10:00 a.m.—*Employer-Employee Relations In A Mobilization Economy.* Chairman: Ivan F. Baldus, Personnel Director, Mars, Inc., Chicago, Ill.
Current Trends In Contract Negotiation by E. R. Bartley, Personnel Director, Bunte Bros., Chicago, Ill.
Wage Stabilization Under Mobilization by Samuel Edes, General Counsel, Wage Stabilization Board, Washington, D. C.
Questions and Answers

11:00 a.m.—*Candy's Role In A Mobilization Economy.* Chairman: John Henry, DeWitt P. Henry Co., Philadelphia, Pa.

11:05 a.m.—*How Can We Improve the Shelf Life of Candy? Cold Storage of Candies, Nuts and Peanuts* by Dr. J. G. Woodroof, Georgia Agricultural Experiment Station, Experiment, Ga.
Recent Developments In Candy Research by Dr. L. F. Martin, Agricultural Chemical Research Division, U. S. Department of Agriculture, New Orleans, La.

11:45 a.m.—*The Why About Candy Specifications by the Military* by Fred W. Amend, President, Fred W. Amend Co., Chicago, Ill. and Dr. Kenneth T. Farrell, Chief, General Products Division, Food Laboratories, Quartermaster Food & Container Institute, Chicago, Ill.
Questions and Answers

2:00 p.m.—Traffic Conference Conducted by Manufacturing Confectioners Traffic Conference. Participants: P. W. Kroeker, Curtiss Candy Co., Chicago, Ill.; A. E. Hueneryager, Zion Industries, Inc., Zion, Ill.; F. A. Johnson, Wm. Wrigley Jr. Co., Chicago, Ill., V. Zaccardi, Bunte Bros., Chicago, Ill.

8:00 p.m.—The Candy Ball, Grand Ballroom. Dinner Dance Chairman, Neal V. Diller, Nutrine Candy Co., Chicago, Ill. Dinner, Entertainment, Dancing. (Admission by ticket only.)

Thursday, June 7

Morning Session • *North Ballroom*

9:30 a.m.—Film.

10:00 a.m.—*Candy Economics In A Mobilization Economy.* Presiding: Harry R. Chapman, New England Confectionery Co., Cambridge, Mass.

10:05 a.m.—*Trends In Confectionery Sales and Distribution* by George F. Dudik, Food Division, U. S. Department of Commerce, Washington, D. C.

10:15 a.m.—*How You Figure Your Prices—Now—Next Fall* by Oliver W. Woods, Chief, Grocery Products Branch, Office of Price Stabilization, Washington, D. C.

10:45 a.m.—*How Shortages of Materials and Supplies Will Affect Candy Manufacturers* by Lawrence Myers, Director, Sugar Branch Production and Marketing Administration, U. S. Department of Agriculture, Washington, D. C.

11:15 a.m.—*What Is Unfair Competition?* by Lowell C. Mason, Commissioner, Federal Trade Commission, Washington, D. C.
Questions and Answers

12 Noon—Resolutions presented by Irvin C. Shaffer, Just Born, Inc., New York, N. Y.

12:30 p.m.—Luncheon—Grand Ballroom. Presiding: Charles R. Adelson, Delson Candy Co., New York.
Introduction of Honored Guests and Tribute to Suppliers to the Candy Industry.
"*The How and Why of Government Procurement*" by Major Gen. Herman Feldman, The Quartermaster General of the U. S. Army.
"*The Status of Confectionery In Europe*" by Andre Balleyguier, Director, Chocolal Poulain, Paris, France and President, Association Pur Le Perfectionment Et L'Expansion de la Chocolaterie et de la Confiserie de France.

2:30 p.m.—Adjournment and Official Closing of the NCA 68th Convention.

8:00 p.m.—Official Closing of the 25th "Silver Jubilee" Confectionery Industries Exposition.

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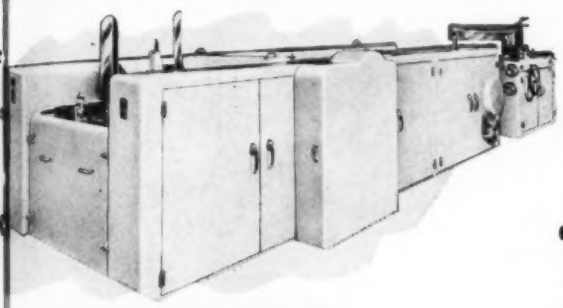

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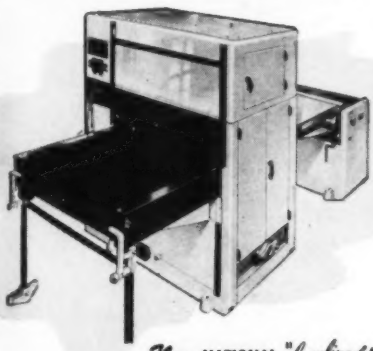

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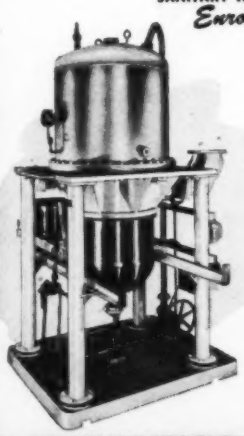

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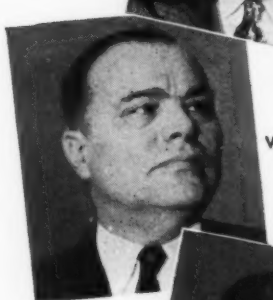
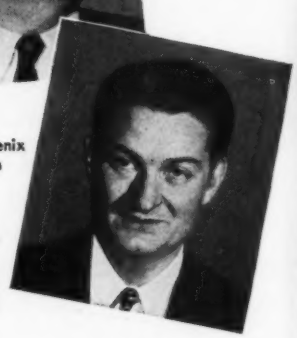

Walter Kansteiner
Chicago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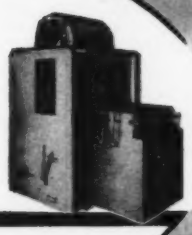

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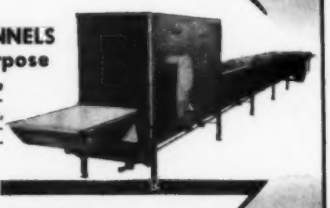

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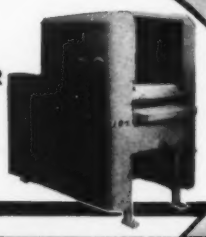

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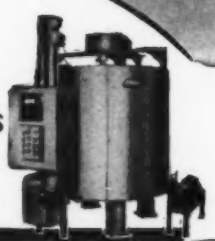

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June 3-7, 1951

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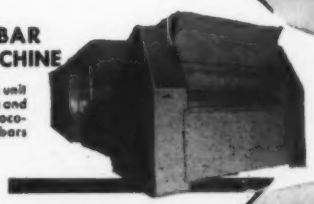
Completely automatic unit for depositing, cooling and demoulding solid chocolate. Made for small bars and 10-lb. cakes.



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Try Exchange Oil of Orange for yourself. Give it all your tests for *quality, uniformity* and *strength.* You'll like it...and you'll buy it!

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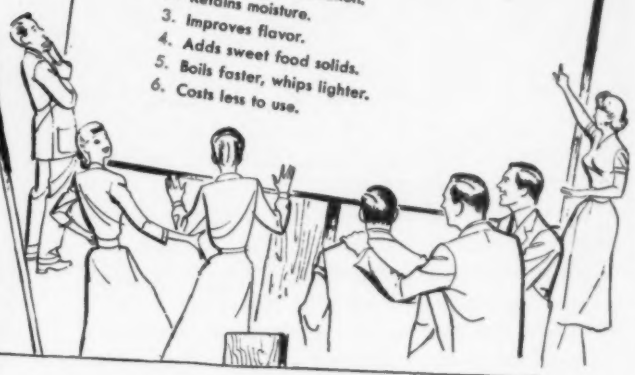
5. Boils faster, whips lighter.
6. Costs less to use.



Staley's STARCHES

Staley offers you these improved confectionery starches:

COOKING STARCHES:
1. ECLIPSE "F"—medium fluidity—for firmer textured jellies.
2. ECLIPSE "G"—high fluidity—easy depositing—less string.

MOULDING STARCHES:
1. STANDARD-ordinary Corn Starch.
2. SPECIAL-recommended because it is almost dustless (treated with oil to reduce dust).

Staley's CORN SYRUP

Staley's Crystal 43 Corn Syrup Unmixed—a high quality standard Confectioners Corn Syrup.

1. Prevents crystallization.
2. Adds body.
3. Supplies food solids at minimum cost.
4. Dependable cooking characteristics.
5. Adaptable to all standard candy formulas.

Staley's LECITHIN

Staley's "*Sta-Sol*" Lecithin Concentrate, extracted from soybean oil, gives your finished products these benefits:

1. Faster mixing.
2. More complete mixing.
3. Less grainage with age.
4. Fresh flavor longer.
5. Improves moisture retention.
6. Reduces viscosity in chocolate coatings.

See us at Booth 304
CONFECTIONERY INDUSTRIES EXPOSITION
Hotel Stevens, Chicago
June 4 to 7, 1951

A.E. STALEY MFG. CO.
Decatur, Ill., U. S. A.

finer flavor makes the difference

And what a difference! Finer Magna Flavors give your products the taste appeal that makes sales appeal... guard your reputation by guarding the quality of your confections!

But there's another reason why more and more top confectioners are switching to Magna Flavors—not only for *superior* flavor, but for more *economical* flavor! For Magna premium concentrates give you *more* for your money because they flavor more batches per pound! Specify Magna and get *double* economy: greater concentration per pound — at no greater price per pound! See for yourself.

MAGNA Flavors BY M&R

MAGNA-fy the goodness of your confections

***28 WAYS TO BUILD CONSUMER PREFEREN**

- *Magna Apple
- *Magna Banana
- *Magna Burnt Almond
- *Magna Butter, Oil Soluble "D" Type
- *Magna Buvan (Butter-Vanilla)
- *Magna Butterscotch
- *Magna Cherry
- *Magna Wild Cherry
- *Magna Coconut A F
- *Magna Grape M
- *Magna Grenadine CC
- *Magna Honey
- *Magna Jamaica Rum
- *Magna Maple Concrete
- *Magna Maple Extra
- *Magna Maraschino Base "C"
- *Magna Pineapple, Pineapco Type
- *Magna Raspberry No. 6
- *Magna Roman Punch
- *Magna Root Beer "B" Typ
- *Magna Root Beer "C" Typ
- *Magna Southern Fruit
- *Magna Strawberry No. 6
- *Magna Tropico
- *Magna Tutti Frutti
- *Magna Vanilla Base 8-Fo
- *Magna Vanilla Base 16-Fo
- *Magna Walnut, Black

*Imitation Flavo

Write for testing samples and price list today!

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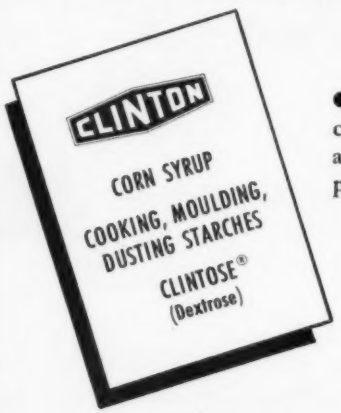
Guaranteed QUALITY

When you use Clinton's SYRUPS and STARCHES

Clinton's laboratory tested syrups and starches are scientifically manufactured to insure you unvarying uniformity. Clinton's staff of highly trained technicians is constantly checking these products to assure top quality, batch after batch.



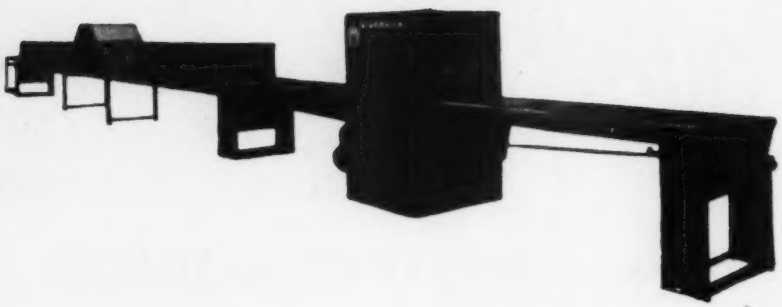
● Our Sales Service Department is for your convenience. You'll find it mighty helpful and profitable in solving your technical problems. Write or call without obligation.

Tops
FOR CONFECTIONERS
COAST-TO-COAST

CLINTON FOODS INC.
CLINTON, IOWA

CLINTON

We Welcome Your Visit
at the 25th Annual Confectionery Industries Exposition, Hotel Stevens, Chicago, Booths 3 & 4, June 4-7, 1951.

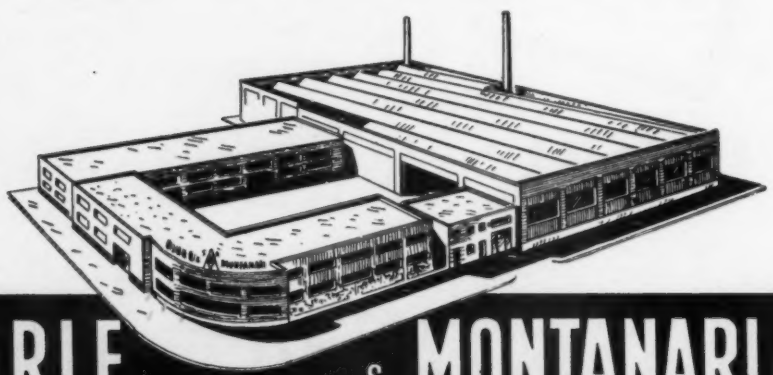


CHOCOLATE COVERING EQUIPMENT NE 620

24" wire band

Drawing out chocolate tank

Sanitary, speedy, simple, efficient and reliable



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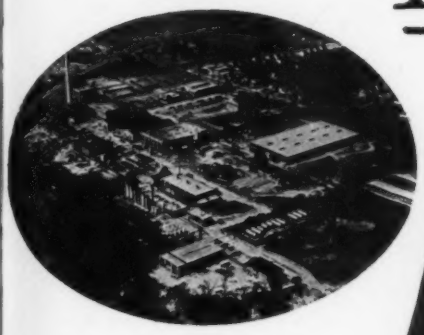
USA REPRESENTATIVE: CAESAR A. MASCHERIN—Room 702—220 West 42nd Street, New York 18, N. Y.
CANADA REPRESENTATIVE: HAROLD DAVIS & CO.—824 Notre Dame St., West Montreal 3, Quebec.

A NEW Source OF CERTIFIED FOOD COLORS*



Sterling's Hilton-Davis Chemical Co. Division, Cincinnati, Ohio, the home of PARAKEET COLORS

A color chemist operating spectrophotometer—one step in our color control to insure quality.

***offers a complete line of Certified Food Colors manufactured by a leader in the color field for 25 years**

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Also available in carriers for easy, accurate and economical fortification.

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Roccal—the original quaternary ammonium sanitizing agent.

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Vanillin
U.S.P.

A Natural Source Vanillin

Vegetable origin. Produced by our patented process from coniferous woods.

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Unlimited supply of basic material. Our process is continuous.

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U.S.P. Pure crystals having only the true vanillin-like flavor.

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Never varies. Enables you to use Zimco Lignin Vanillin as a standard in determining your formulas.

SOLUBILITY

Dissolves quicker due to its uniform crystalline structure.

EXQUISITE AROMA AND DELECTABLE TASTE

of Zimco pure Lignin Vanillin are imparted to your product.

Warehouse stocks: NEW YORK, CHICAGO, LOS ANGELES

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445 Lake Shore Drive, Chicago 11, Ill.

WORLD'S LARGEST SUPPLIERS OF VANILLIN

The Manufacturing Confectioner

JUNE, 1951, Vol. XXXI No. 6

PMCA and Lehigh host to production executives

Manufacturers exchange ideas and hear researchers at fifth annual production conference

THE Fifth Annual Production Conference of the Pennsylvania Manufacturing Confectioners' Association was held at Lehigh University, Bethlehem, Penna., April 26-27. Nearly 200 individuals registered. The conference attracted executives of the confectionery and allied industries from 16 states, Canada, England, Switzerland, and Australia.

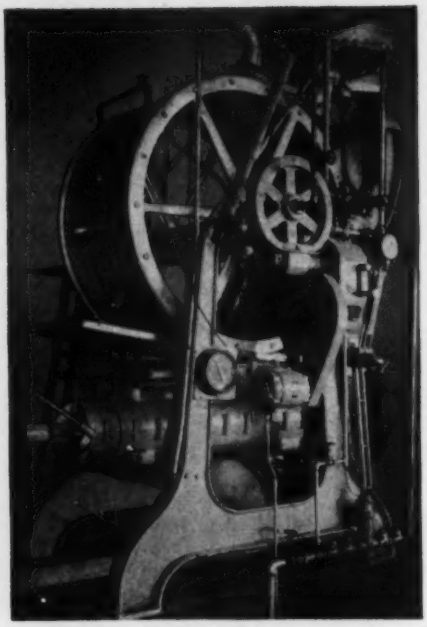
Hans Dresel of the Felton Chemical Co., Inc., chairman of the conference, arranged a general but attractive program, instructive and interesting to all. The PMCA merits great praise for maintaining the high quality of these conferences. From the "Introductory Remarks," by Mr. C. R. Kroekel, President of Kroekel-Oetinger, Inc., and Chairman, Research Committee, PMCA to the final adjournment after the Round Table Discussion, the Conference held the attention of the attendants.

Lehigh University as host to the conference, was most gracious. Dr. H. A. Neville, Director, Institute of Research, made each one feel welcome. The study of problems relating to candy technology, conducted with the financial support and technical assistance of the PMCA is but one of fifty research programs having this type of sponsorship. A recently notable result of industrial research and development is the tendency of many companies to expand laterally as well as in a forward direction. Enterprises long established in one field are entering new areas of production. Drug manufacturers have added foods, rubber companies have expanded into plastics, a trend indicating that any progressive company is potentially a competitor of any other company in a quite different line of business. Since 1920, there has been a continuing expansion of industrial research in the United States. There are now about five research men to every 1,000 production workers in industry. The number of trained personnel engaged in research and development in this country now totals 150,000. This is only one-tenth of one per cent of the population but it is of utmost significance to our national security and industrial progress.

Mr. James A. King, Nulomoline Division of American Molasses Co., spoke on "Ingredient and Process Effect on Candy Characteristics." He emphasized the need for the proper control of solids in making cast or hand rolled creams in order to avoid fermentation. Due to the high sugar and moisture content of cream centers, sufficient invertase and invert sugar must be used to increase the density of the syrup content of the fondant. Incidentally, invertase is not as susceptible to destruction by heat as commonly supposed though it is recommended that invertase be added at temperatures below 160 F.

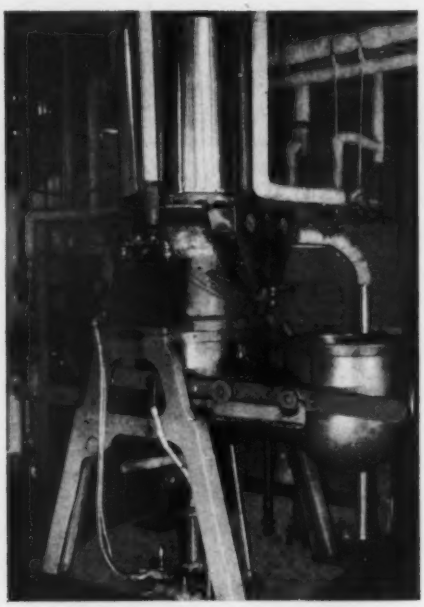
Mr. Morris L. Wurman, Vice President, General Plants Manager, Bayuk Cigars, Inc., presented a paper on "Applying Time and Motion Principles Practically." The cigar making industry is highly competitive and a cardinal policy of the Bayuk Company is constant vigilance directed to ways and means of giving the customer more value for his dollar. Time and motion studies have made an immeasurable contribution in the quest for newer and better methods.

THE FINEST PRODUCTION EQUIPMENT



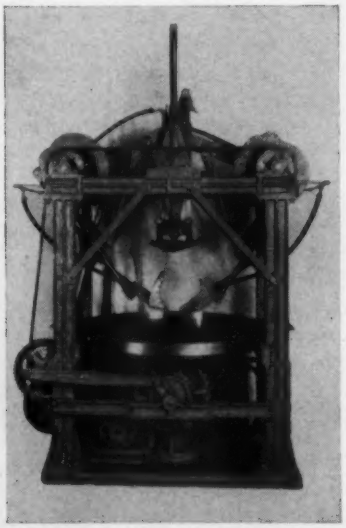
HOHBERGER CONTINUOUS CREAM MACHINE

Continuously cooks, cools and creams up to 2,000 pounds of smooth, firm fondant with only one operator. Can be arranged with electronic controls.



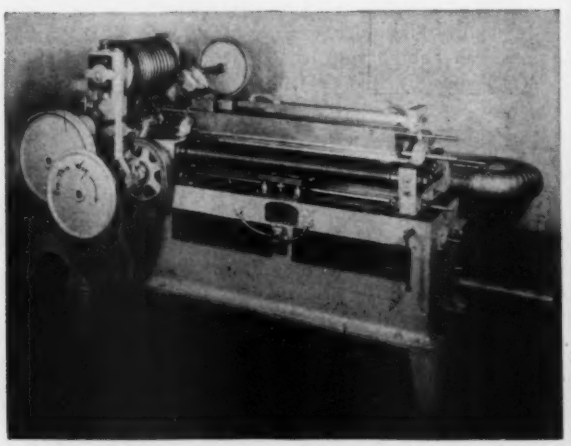
HOHBERGER CONTINUOUS HARD CANDY COOKER

The Candy man's cooker!
"Final Cook" temperature indicator and sight glasses enable operator to always know what he is doing. Simplified controls on cooker and vacuum lend flexibility.



BERKS HARD CANDY BATCH MIXER

Uniformly incorporates color, flavor and acid with up to 10 per cent scrap. Saves 60 per cent labor and floor space. Eliminates cooling slabs. Mixing time 2 to 3 minutes for pulled goods, 5 to 7 minutes for clear goods.



HOHBERGER AUTOMATIC BALL MACHINE

- Production: 600 to 1200 pounds per hour
- Complete with 10 groove electrically heated sizer
- Redesign permits rollers to cut through candy rope for individual pieces
- Forms balls, sunbeam-starlights, root beer barrels and other shapes

REPRESENTATIVE

John Sheffman, Inc.

FOR THE CANDY INDUSTRY

BEN-MOORE STAINLESS STEEL COATERS *and* KETTLES

Stainless steel throughout with removable windows and metal sides. Chocolate coater has tempering compartment above, using "Flow System" for chocolate application.

Cream and Caramel Coaters of Special Design also available.

●

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by
Health Authorities
in
Leading Cities

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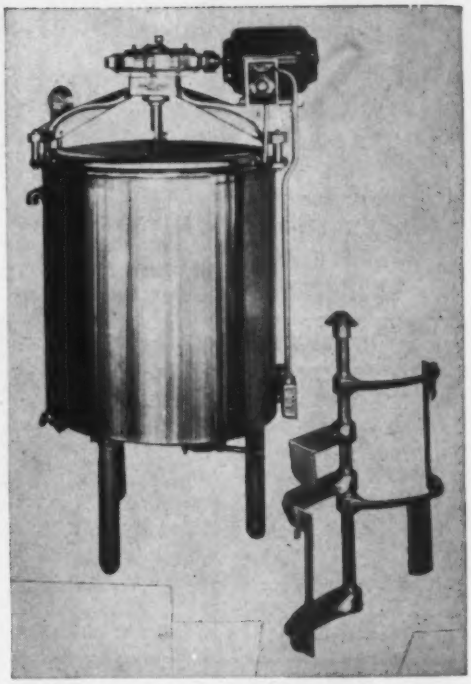


Stainless steel melting kettles with removable agitators and thermostat control. Complete with motor and drive. Available in all sizes from 200 to 2000 pound capacities.

HONTZ PEANUT CLUSTER MACHINE

Completely Automatic Cluster Machine requires only part time attention of enrober operator to supply nuts and chocolate. Production 600 to 900 pieces per minute on a 24 inch line. Nuts are delivered through a multiple measuring valve to perforated aluminum retaining ring groups, on an endless chain, passing through enrober. Nuts are coated with chocolate and are released in cluster form on glazed belt.

At the NCA Convention, John Sheffman and Associates will be in attendance at Booth 20 with Chocolate Spraying Co.

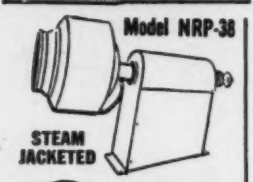
152 West 42nd St., New York 18, N. Y.

new help to sanitation in candy making . . .

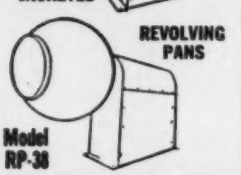
GROEN

STAINLESS STEEL STEAM JACKETED VACUUM PANS

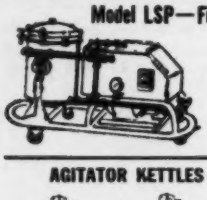
OTHER GROEN CANDY PLANT EQUIPMENT



Model NRP-38
STEAM JACKETED

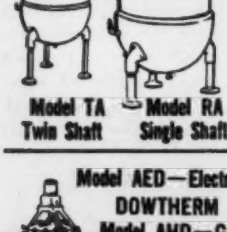


REVOLVING PANS
Model RP-38

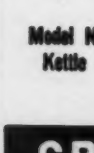


Model LSP—Filter

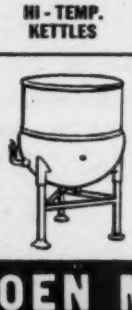
AGITATOR KETTLES



Model TA Twin Shaft
Model RA Single Shaft

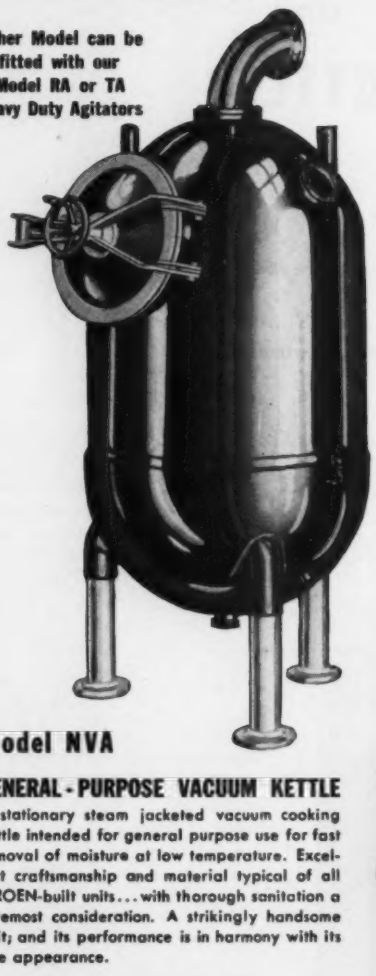


Model AED—Electric
DOWTHERM
Model AHD—Gas
HI-TEMP. KETTLES



Model N Kettle

Either Model can be fitted with our Model RA or TA Heavy Duty Agitators



Model NVA

GENERAL-PURPOSE VACUUM KETTLE

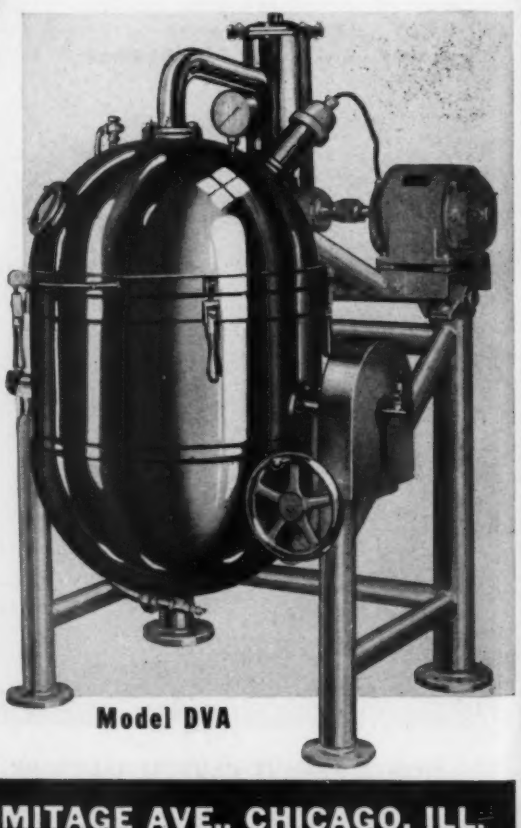
A stationary steam jacketed vacuum cooking kettle intended for general purpose use for fast removal of moisture at low temperature. Excellent craftsmanship and material typical of all GROEN-built units . . . with thorough sanitation a foremost consideration. A strikingly handsome unit; and its performance is in harmony with its fine appearance.

TILTING VACUUM KETTLE

Model DVA, shown at right, is a tilting-type special purpose vacuum cooking unit. Modern sanitary design throughout. Note the clean-cut, streamlined appearance. Observe the open, unhindered accessibility around and under the unit. Nothing to impede easy cleaning. Everything to simplify complete compliance with the most rigid sanitary codes.

GET DETAILS. WRITE FOR BULLETIN VP-1

See the famous GROEN candy plant equipment at the N. C. A. EXPOSITION—Stevens Hotel, Chicago—June 4-5-6-7—our Booth 503. Used in producing best known brands for half a century, it has definitely proved its performing ability; and the unit you choose will satisfy your most exacting demands. Strictly sanitary . . . COMPLIES WITH THE MOST RIGID HEALTH DEPT. CODES. Modern design . . . precision engineered to function perfectly in your production line. • And for EXTRA-HIGH-SPEED heating ask about our ROTA-THERM JACKET . . . available on all GROEN Stainless Steel Kettles for super-fast operation.



Model DVA

GROEN MFG. CO., 4529 W. ARMITAGE AVE., CHICAGO, ILL.
WORLD'S LARGEST PRODUCERS OF STAINLESS STEEL STEAM JACKETED KETTLES

Reference was made to the pioneer work by Frederick W. Taylor and Frank Gilbreth for their engineering and motion study work. Mr. Wurman stated that his company uses a man within the organization to conduct these time and motion studies. A keen analytical mind with the power of observation and a basic knowledge of time and motion studies are necessary. Advantages in using a company man are; (1) He knows the company and its background, (2) He knows the operating methods, (3) He is accepted by the employees, (4) He knows the situations which might interfere with the success of the study, (5) His cost is less than that of an outsider.

Studies made showed that the banding and cellophaning operation performed by old machines has not kept abreast of the increased mechanical productivity of the industry. Hence, it was decided to have a new machine designed to meet four fundamental requirements; (1) Increase production, (2) Increase the employee's wages, (3) Improve the quality of the work, and (4) Effect a saving for the company. The new experimental machine was installed but failed to meet all of the above specifications. Two operators were needed to service the wrapping machine. Time and motion studies showed that modification of the loading unit, the development of an automatic cardboard ejector (used to separate the cigars), changing the height of the two front posts of the wrapper, and alteration of the tapes used to hold the cigars in position, were necessary before every specification had been met. The 19 slides shown illustrated the problems encountered. The last slide shown displayed the attitude of the company personnel, "Anything We Can Do—We can Do Better."

"New Solutions for Old Quality Problems," was ably presented by Dr. J. M. Juran, Professor of Management Engineering, New York University. Though the speaker stated he knew very little about the candy business, from his wide experience in quality problems, he considered the three most important quality problems observed in the confectionery industry. These were cited as; (1) Quality specification is set by the candy manufacturer not by his customers, (2) Development of satisfactory means of measuring taste, and (3) Regulation and control of weights.

Management in many industries determines the quality specifications of the products produced. Consumer panels representative of the market are being utilized to a great extent by leading manufacturers to pre-determine the acceptability of new products. Candy appeals mainly to the sense of taste. A consumer panel is more accurate than the advice of a so-called expert taster.

There is no instrument which can taste candy and register units of pleasantness or unpleasantness. However, the "Blindfold" method of testing offers a means of standardization. Dr. Juran mentioned procedures used in the blending of liquors wherein standards are served first to tasters, then two unmarked samples are offered to the tasters. This provides a check on the product and the tester.

The regulation of weight is important in complying with legal standards and yet avoiding loss through overweighing. Scientific methods have been developed (statistical control) which are applicable to the candy business. These methods are based on the principle that the product tells on the process. The weighing of samples tells what is happening inside the machinery which is trying to regulate those weights. Dr. Juran showed slides to illustrate curves which were "in" and "out" of control.

"The Dairy Products You Use," a paper by Mr. Ray W. Mykleby, Supervisor of Laboratories, Land O'Lakes Creameries, Inc., will be found on another page.

The subject of "Chocolate Cooling Tunnels" was covered thoroughly by Mr. Fred W. Greer, President, J. W. Greer Co.

Editor's Note: Mr. Greer had an article in the March 1951 *issue of The Manufacturing Confectioner which gives his views on chocolate cooling tunnels, their design and operation.*

Mr. L. Cletus Gallagher, California Fruit Growers Exchange, spoke on "The Adaption of Manufacturing Procedure to the Packaging, Shipping and Shelf Life Requirements of Pectin Confectioners' Jellies." This paper appears on another page.

Mr. V. R. Ciccone, Charms Co., discussed pointedly, "Pooling Ideas in the Candy Industry." This paper by Mr. Ciccone is presented as an editorial on another page.

The Symposium on the Reuse of Candy Trimmings was a highlight of the conference. Messrs. Charles Carilli, Superintendent, Edgar P. Lewis & Co., W. H. Childs, Armour & Co., and V. R. Ciccone, Asst. Works Manager, Charms Co. were the participants. Mr. Carilli remarked that the best solution was to avoid the making of scrap. Mr. Ciccone presented a paper dealing with hard candy trimmings. The paper presented by Mr. Childs will be found on another page.

The Pennsylvania Dutch Dinner, customarily served the evening of the first day of the Conference, was enjoyed by all. After dinner remarks were made by Mr. Dresel, Conference Chairman, Mr. Anthony J. Napolitan president of PMCA, and Mr. Kroekel who was presented with bound volumes of the proceedings of the first three conferences. Mr. Philip P. Gott, President, National Confectioners' Association delivered the address of the evening.

"Fats, Oils, Hard Butters," was thoroughly covered in the paper presented by Mr. Gustav F. Becker, Sales Manager, New England Division, E. F. Drew & Co., Inc. The three fundamental requirements of fats and oils suitable for the confectionery industry are; (1) Flavor, (2) Stability, and (3) Physical characteristics.

Fats added to candy for lubrication or enriching purposes are expected to be bland, odorless and tasteless and to remain so. Butterfat besides acting as a lubricant, adds flavor. However, this is prone to become rancid. Nuts, which usually consist of 50% fat content, are added to candy because of their characteristic flavor.

Stability means the resistance of the fat to breakdown of which rancidity is one phase. The breakdown is of two kinds, hydrolytic and the development of oxidative rancidity. In the former, hydrolysis results in the fat splitting into glycerine and free fatty acids, the latter having objectionable flavor. Oxidative rancidity is one of the major problems confronting food technologists at present. We have learned to avoid overheating of fats and oils and also know that certain metals accelerate the development of rancidity. Antioxidants and natural stabilizers offer advantages in retarding rancidity but it is "wise to choose the types of fat, which, unaided by artificial means, have the best stability against rancidity."

In general, hydrogenated oils are more stable than plain oils and refined vegetable oils are more stable than

SIGHT-O-MATIC CONTROL
puts more POWER in manpower

LEHMANN MODEL 651—CV CHOCOLATE MILL

BECAUSE man-power is in short supply in American industry, the need for improved mechanization of production equipment is more urgent than ever.

SIGHT-O-MATIC CONTROL is a definite departure in making chocolate refiners more nearly automatic in operation. It saves precious time in adjustment of roll pressures, as illustrated here in the Lehmann 651-CV Five Roll Chocolate Refiner. The operator merely turns either handwheel until the correct pressure is indicated in the gauge above it. Intermediate rolls adjust themselves automatically from the pressure exerted by the top roll. Adjustments are instantaneous instead of a time consuming cut-and-try process.

The 651-CV Refiner also has pneumatic discharge control by which knife pressure is set quickly and accurately for most efficient take-off and held constant at that pressure regardless of blade wear. Roll temperature control is facilitated by dial thermometers and valves at the water inlet manifold and at roll water discharge outlets.

These improvements mean better quality control and more efficient operation because you can SEE whether or not the refiner is operating at the optimum settings.

The net result of these and other features of this up-to-date machine is to make available man-power go further.

We suggest that you examine all production units now in use in your plant. If a factory reconditioning job is indicated for any of your equipment, get in touch with us. To help assure prompt service, we suggest you anticipate your needs and advise us well in advance to permit prescheduling of your reconditioning work.

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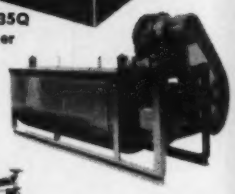
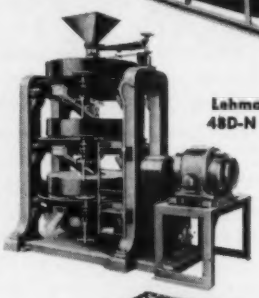
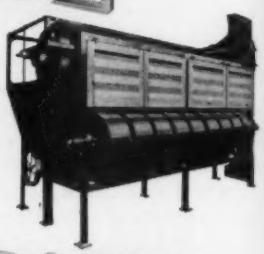


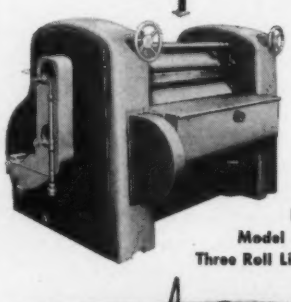
Lehmann Model 40M-U 4000 lb. Emulsifier



Lehmann Model 48D-N Triple Mill

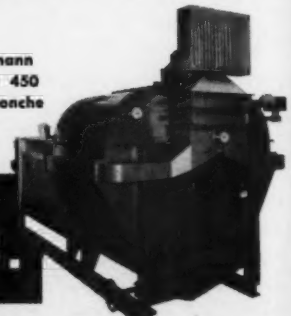


Lehmann Model 88 DSL Cracker and Fanner



Lehmann Model 913 ACL Three Roll Liquor Mill

Lehmann Model 10M 1000 lb. Paste Mixer



Lehmann Model 450 Disc Conche

J. M. LEHMANN COMPANY, Inc.

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animal fats. The table shows the common fats used in food manufacture listed in their relative order of stability.

1. Cocoa butter, Coconut hard butter
2. Hydrogenated Coconut oil
3. 76° Coconut oil
4. Hydrogenated Peanut oil
5. Hydrogenated Cottonseed oil
6. Domestic liquid vegetable oils
7. Butter fat and other natural animal fats.

Generally, the natural liquid oils and soft fats are unsuitable for candy because of oiling or greasing out. The physical characteristics of a fat do not depend upon the chemical composition. Mutton tallow and cocoa butter are quite close in their relative percentage composition of fatty acids, yet these differ markedly in their properties.

Hard butters make possible the production of summer coated goods that stand up. Several formulas were given for compound coatings. Instructions and suggestions were also given by Mr. Becker for manufacturing operations. Any fat mixture can only stand so much abuse and care should be exercised in the storing, shipping and merchandising of compound coated goods.

Dr. Nelson Easton presented a paper, "Studies on the Tempering of Chocolate." He, and the co-authors, Lester R. Bartron, Frank Meinhofer, and Douglas C. Kelly reported on the research work supported by the Research Committee of the PMCA. Dr. Easton said that the tempering of chocolate on a small scale was considerably different from that on a commercial scale. A comprehensive study of chocolate tempering was undertaken. By determining the time necessary to produce good temper at temperatures between 82.4 F. and 89.6 F., a tempering curve was plotted. The determination of the approximate time necessary to produce "overtemper enabled the plotting an overtemper curve. Through the use of these curves, it was possible to tell how long the chocolate could be used safely. "The opinion that it is better to temper chocolate at a lower temperature has been expressed on numerous occasions. The stability tests performed thus far indicate that chocolate when properly tempered has the same stability whether it was tempered at 81.4 F. or at 89.6 F."

Suggestions on "How to Extend Shelf Life in Confections," given by Mr. Justin J. Alikonis* may be found on another page.

Dr. R. F. Korfhage, Chief Chemist, Peter Cailler Kohler Swiss Chocolate Co., Inc., gave an illustrated talk on "Effect of Raw Material Quality of Finished Chocolate Coating." Through the medium of the natural colored slides, the differences between the cacao beans and chocolate liquors made from them, could be easily observed.

Dr. Korfhage stated that the degree of ripeness of the bean when picked and the fermentation process have a bearing on flavor and color. He said, "A really top quality piece of coating cannot be made from cheap beans regardless of how the beans are treated, how thoroughly the piece is processed or what flavoring materials are used."

The usual Round Table Discussion, directed by Mr. James A. King, composed of speakers, maintained interest by quite successfully answering the many, sixty-odd, questions submitted. Adjournment followed.

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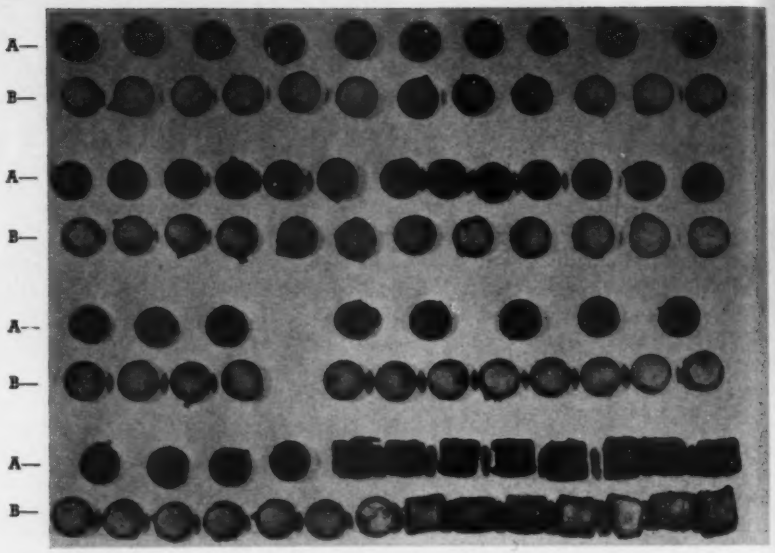
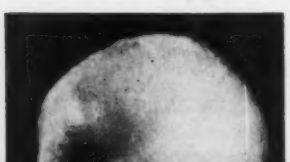
This photograph shows the results of the first preliminary testing on the modified and unmodified chocolate done under the auspices of the PMCA in Philadelphia recently. The lines marked A are the chocolates modified with one per cent G 2034. Lines B are the unmodified chocolate. These samples were placed in a temperature humidity chamber and underwent rigorous accelerated testing. They underwent six cycles from 60 degrees to 90 degrees each cycle covering a 12 hour period. It is each cycle covering a 12 hour period. It is obvious from the photograph that the modified chocolate in this preliminary test shows a very marked resistance to bloom. Of course, final results will not be available until the regular long term testing has been completed.



Report of Enrobing Tests on Modifier G-2034

As released by the research committee of the Pennsylvania Manufacturing Confectioners' Association



C. R. Kroekel

Chairman, Research Committee
Pennsylvania Manufacturing
Confectioners Association

The Penna. Manufacturing Confectioners Association recently conducted tests on a large scale factory level enrobing basis, at one of our local (Philadelphia) confectionery plants, on the use of a modifier, designated as G-2034, developed through research conducted at Lehigh University under the auspices of the Penna. Manuf. Conf. Assoc., in cooperation with the Research Department of the University, with the purpose of eliminating or retarding chocolate bloom.

Work on this program was started at Bethlehem by the P.M.C.A. about five years ago. After a great deal of Research work on a laboratory basis, and after thoroughly testing and checking a great many "modifiers", the technologists at Lehigh and the P.M.C.A. Research Committee determined that the modifier designated G-2034 offerred the best hope of achieving the desired results. Many subsequent tests were made and continued to show good results, and it was finally agreed, several months ago, that nothing more could be accomplished on a laboratory scale for the time being, but that we had arrived at the point where large scale tests under normal factory conditions should be made.

One of our Philadelphia factories offered the use of two enrobers and other needed equipment, while other interested parties agreed to help defray all other costs involved. so that the tests should involve no added expense to the P.M.C.A.

The tests took up practically a full day and about 800 pounds of a standard Chocolate Coating was used, half of which contained the modifier, G-2034, and two types of centers, vanilla cream and cocoanut bon bons, were used. Technologists from a number of Chocolate plants, Lehigh University and Suppliers supervised the tests. A thorough recorded check was kept on conditions during the tests by the use of thermocouples, potentiometers, etc., while temper tests were taken periodically by a rather simple method developed at Lehigh University.

The above tests were purposely made under normal factory conditions, so that results would not be misleading or difficult to repeat.

The next step will be a thorough and extensive checking of the finished test candies in four or five laboratories, to determine the effect of the modifier as compared to normal coating, and to evaluate the extent to which it will inhibit bloom. Actual shelf life tests under normal shipping and handling conditions will also be made.

While final results will not be available until all these tests have been completed, the Research Committee as well as the technologists at Lehigh University feel quite confident and look forward hopefully to a high degree of success.

The adaptation of manufacturing procedure to the packaging, shipping and shelf life requirements of

Pectin Confectioners' Jellies

L. CLETUS GALLAGHER

California Fruit Growers Exchange

CONFECTIONERS jellies, being individual pieces, like all candies, are subject to the influence of the surrounding atmosphere. In desert or arid sections of the country, they will lose moisture to the atmosphere and be subject to drying and possible crystallization; while in humid climates, especially during the hot summer months, they have a tendency to sweat. Fortunately, both of these hazards can be overcome by proper control. Since the greater proportion of jellies are sold in those sections of the country of high summer humidity, production procedure to prevent sweating will be discussed in detail followed by modified procedures for moisture retaining and non-crystallizing jellies.

Non Sweating Pectin Jellies

Pectin confectionery jellies are produced by bringing sugar, corn syrup, pectin, acid and water through heat evaporation to the proper relationship for gel formation. During this cooking process certain changes take place to modify the ingredients of the batch. Carbohydrates, especially sucrose, heated to high temperatures in the presence of acid and water, are hydrolized, resulting in a finished jelly containing dextrin, maltose and dextrose derived from the corn syrup, sucrose and invert sugar (dextrose and levulose) derived from the cane or beet sugar, in addition to pectin, acid and water. With these ingredients present in the right relative percentages, jelly candy can be made to withstand any climatic conditions and to possess a shelf life surpassed by very few food products.

Sweating of confectionery pectin jellies is the result of a disproportion of the relative percentages of these ingredients, such as an excessive percentage of corn syrup; too high a percentage of water; insufficient amounts of pectin; or an excessive amount of invert sugar. With the standard ingredients formula tabulated below, the first two of the above listed discrepancies are automatically eliminated and the amount of pectin provided in the formula is adequate. However, two possibilities for pectin deficiency still exist: (1) incomplete dissolving of the pectin; and (2) breaking down (degrading) of it caused by too long a cooking period or too high an alkalinity in the batch, or a combination of the two. Finally, invert sugar, which is always formed during the cooking process in varying amounts, depending upon the time required to cook the batch and the degree of its acidity, is the real variable in the ingredients picture and, since it is hygroscopic (attracts moisture), rates as the principle contributor in most cases of sweating.

Ingredients for a Standard Batch of Confectionery Jelly

Water	12	gallons
Sugar	100	pounds
Corn Syrup	100	pounds
150 Grade Slow Set Citrus Pectin	2½	pounds
Citric Acid (U.S.P.)	10	ounces
Sodium Acetate	4½	ounces
Flavor and Color	As	desired

Cook to 226° F. or above at sea level.

The initial essential in the production procedure is a thorough and rapid dissolving of all of the protein. One pound of 150 Grade Pectin can be dissolved in a minimum of three gallons of water by means of high speed agitation (1,750 R.P.M.) or it may be thoroughly mixed with approximately eight times its weight of granulated sugar and poured into previously heated water (110° to 130° F.) in the cooking kettle with thorough agitation and low application of heat until the batch boils vigorously. However, in this instance, because of the decreased solubility caused by the sugar, together with the limited batch size, which at this stage of the procedure is so far down in the steam-jacketed portion of the kettle, *an increase in the amount of water* is necessary for *complete solution* of the *pectin* in the *time allocated* in the production schedule. It is preferable to use more water and to cook the batch continuously from the time the heat is first applied, thus eliminating any interruptions during the successive additions of ingredients. Under normal factory conditions, the amount of water required usually falls within the range of from five to five and one-half gallons per pound of 150 Grade Pectin. Prolonged cooking caused by insulation of the walls of the cooking kettle and poor heat transfer throughout the batch, due to incomplete solution of the pectin is, in addition to being a needless waste of pectin, responsible for an excessive increase in the amount of invert sugar and may in some instances, result in some degrading of the pectin, all of which are contributing causes to sweating.

Normally, the pectin candy batch which cooked in the shortest time period can be considered to have been cooked by the best procedure, as it indicates complete solution of the pectin without excess water and of course, represents the greatest efficiency in production yield and power expenditure. Also, with a reduction in the cooking period, the control of sugar inversion can be more accurate. However, this does not necessarily mean the quick application of the greatest steam pressure. Best results are obtained by applying just sufficient steam pressure to assure free boiling which during the early stages of

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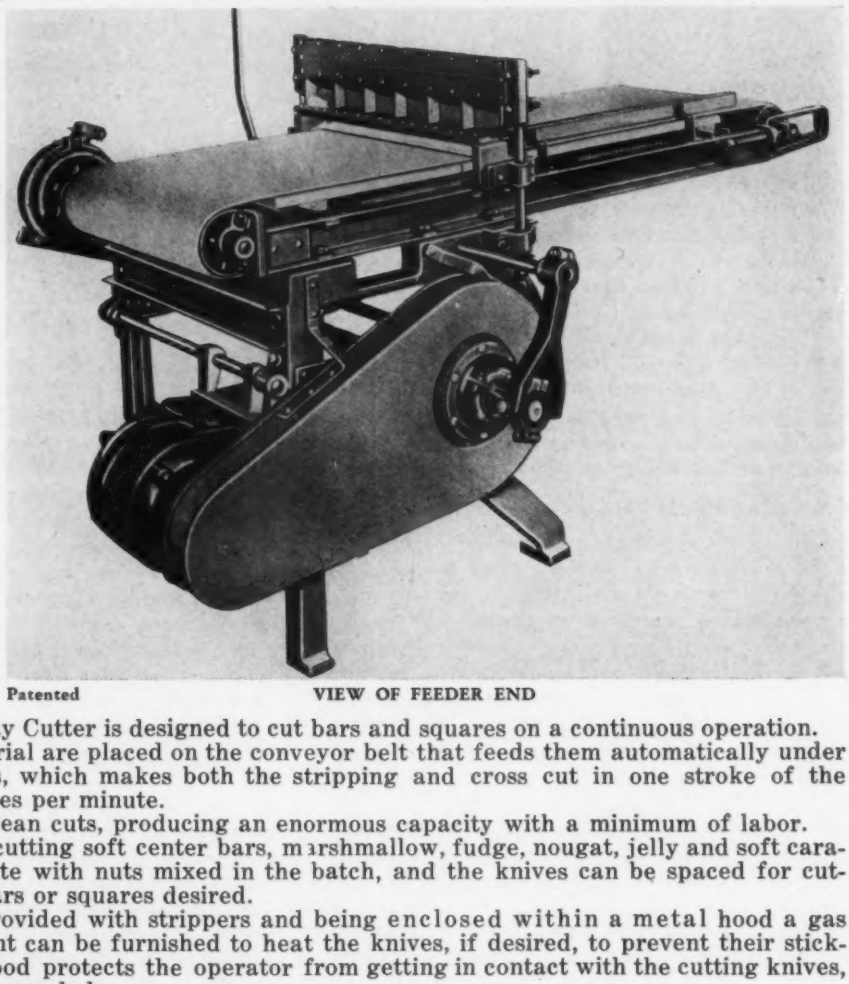

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- It is adapted for cutting soft center bars, marshmallow, fudge, nougat, jelly and soft caramels, also chocolate with nuts mixed in the batch, and the knives can be spaced for cutting the size of bars or squares desired.
- The knives are provided with strippers and being enclosed within a metal hood a gas heating attachment can be furnished to heat the knives, if desired, to prevent their sticking. The metal hood protects the operator from getting in contact with the cutting knives, and all gears are guarded.
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the cook will be quite low, gradually increasing as the boiling point of the batch increases with considerable pressure being needed toward the end of the cook. Very high steam pressure may cause scorching of the batch or it may cause a vapor layer inside of the kettle surface, either of which will slow the rate of cooking due to insulation.

If jelly batches are produced by any procedure which results in longer cooking period, the tendency for greater amounts of inversion of sugar is increased and extra precautions are needed, especially in humid climates, to minimize this process by carefully controlling the pH during the cooking of the batch.

The setting time of pectin jelly candies is regulated by adjusting the active acidity (hydrogen ion concentration) of the batch with a combination of citric acid and an alkaline buffer salt, such as sodium citrate or sodium acetate. During the cooking process the pH should be slightly within the acid range (below pH 5.2) to avoid browning reaction and possible degradation of the pectin and still high enough (above pH 4.0) to retard the rate of production of invert sugar. A practical procedure is to add all the buffer salt and from ⅛ to ½ of the total amount of citric acid in with the pectin/sugar mixture at the beginning of the cook (⅛ of the total amount of acid is desirable when using water of negative alkalinity—pH below 7—with a corresponding increase in the acid to ½ the total amount for batches made with water of high alkalinity.) Then, just before transferring the finished batch to the Mogul, the remainder of the acid dissolved in a little water is added to drop the pH within the setting range (pH 3.45 to 3.55).

Acid tartness in the jelly may be adjusted to any desired degree by varying the amount of buffer salt to maintain an equitable pH. Likewise, a similar adjustment must be made for the acid or alkaline salt constituents of any natural substance, such as crushed fruits, fruit juices, cocoa, etc., which may be added to the batch as a part of the flavor unit. *The Exchange Confectioner's Handbook* formulæ make these adjustments.

Inherently, jellies containing less moisture (cooked to higher temperatures) are more resistant to sweating and more durable for bulk handling, such as panning or bulk packaging. However, if this high solids content can only be reached by a prolonged extension of the cooking period, resulting in an excessive increase in the development of invert sugar, the jelly will then be more hygroscopic and, instead of being more resistant to sweating, will have its sweating potential increased. Also, the practice of adding a greater proportion of granulated sugar to corn syrup (60 pounds sugar to 40 pounds of corn syrup) to overcome sweating is effective if the granulated sugar can be gotten into the finished jelly as sucrose, but if the sweating is the result of excessive inversion of sugar (and it usually is), then the extra granulated sugar actually provides the raw material for even more invert sugar.

Determination of Batch Size

The limit of the batch size is determined by the time required to cook it and the time required for its deposit. The total cooking period should not exceed 30 minutes, preferably not over 18 to 20 minutes. The time required after the addition of the final amount of acid until all the batch is deposited should not exceed 15, or at most, 20 minutes, preferably from 6 to 10 minutes. In large batch production requiring more than 15 or 18 minutes for deposit, it is advisable during the humid summer months to add the acid at an intermediate stage between the cooking kettle and the Mogul to portions of the batch which can be deposited within the desired time limit, as the temperature and acidity of the batch at this stage is conducive to further inversion of the sugar.

The above ingredients formula can now be rewritten on the basis of production procedure to produce a non sweating jelly.

Formula No. 1—Citrus Pectin Jelly Candy: Non Sweating

	WATER—(110° to 140° F.)	13½	gal.
	Granulated Sugar	20	lbs.
	150 Grade Slow Set Citrus Pectin (Add With Agitation)	2½	lbs.
	Sodium Acetate (Add With Agitation)	4½	oz.
	Citric Acid (Add With Agitation)	2	oz.
	Then heat slowly to vigorous boil and add:		
Cooking time 15 to 20 minutes	Corn Syrup	100	lbs.
	Cook to 216° and add:		
pH 4.2 to 4.80	Granulated Sugar	80	lbs.
	Cook rapidly to 227° F.		
	Flavor and Color and then add:		
Deposit time 6 to 12 minutes	Citric Acid (dissolved in water)	8	oz.
	Deposit Immediately (Do not add acid until Mogul is ready)		
pH 3.48 to 3.53	Time in starch, 12 hours (minimum 6 hours)		

Per cent reducing sugars coming out of starch should not exceed 30% on total solids basis, gradually increasing during shelf life to 33% or 34%.

The above formula is for sanded or crystallized jelly, with special precaution to avoid sweating. In those sections, especially the Southwestern part of the country where the climate is very dry, sanded and crystallized jellies need to be manufactured with special precautions to increase their resistance to excessive loss of moisture. Also, should pectin jellies be used as centers for chocolate coating, stickiness or sweating is rarely, if ever, a problem. Chocolate coating in addition to protecting the jelly from outside moisture, is a suspension of very minute granules which may act to start the seeding process, resulting in crystallization of the jelly just under the coating. Therefore, in both of these cases it is advisable to add from one-half to three-fourths of the acid at the beginning of the cook.

Formula No. 2—Confectioners Pectin Jelly: Non Drying

(To be used only where sweating is not a problem)

	WATER—(110° to 150° F.)	13	gal.
	Granulated Sugar	20	lbs.
	150 Grade Slow Set Citrus Pectin (451) (Add With Agitation)	2½	lbs.
	Sodium Acetate (Add With Agitation)	4½	oz.
	Citric Acid (Add With Agitation)	7½	oz.
Cooking time 15 to 25 minutes	Then heat slowly to vigorous boil and add in successive portions:		
pH 3.65 to 3.85	Granulated Sugar	80	lbs.
	Corn Syrup	100	lbs.
	Cook rapidly to 227° at sea level		
	Flavor and color and then add:		
pH 3.45 to 3.53	Citric Acid (Dissolved in water)	2½	oz.
	Deposit Immediately		

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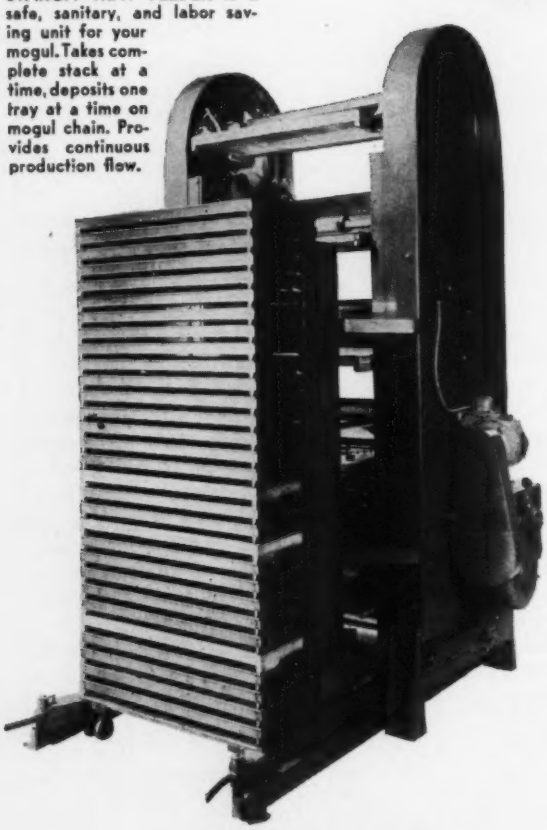
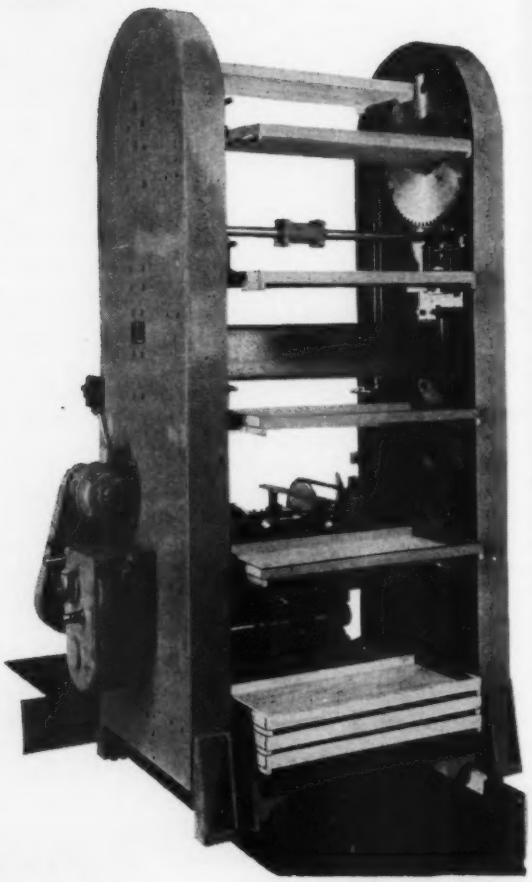
CURRIE AUTOMATIC STARCH TRAY FEEDER is a safe, sanitary, and labor saving unit for your mogul. Takes complete stack at a time, deposits one tray at a time on mogul chain. Provides continuous production flow.





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CURRIE AUTOMATIC STARCH TRAY STACKER will give you increased production, elimination of hand stacking, reduced tray breakage, and improved sanitation. Can be used with Bausman, National, Greer, or any other type system.

The above formula produces a jelly slightly higher in invert sugar which is hygroscopic (attracts and holds moisture). Pectin being a hydrophilic (water absorbing) colloid in this combination, will resist drying and the jellies thus formed will have a shelf life many times that of starch jelly.

In some instances, a chewy, low acid gum type jelly is desired. Increasing the corn syrup in the jelly has a tendency to increase the toughness and chewy character of it, while the reverse, an increase in the cane or beet sugar, improves its tenderness and shortness. Too much corn syrup will cause sweating, but a 60/40 ratio is fairly safe in most sections of the country for a highly cooked jelly, especially if the cooking procedure for a non sweating jelly is followed.

Formula No. 3—Chewy Confectioners Pectin Jelly

WATER—(110° to 130° F.)		12	gal.
Add With Agitation	Sugar	20	lbs.
	#451 Pectin	2½	lbs.
	Sodium Acetate	3	oz.
	Citric Acid	3	oz.
Then heat to a vigorous boil and add in successive portions:			
Corn Syrup (43° Be.)		125	lbs.
Granulated Sugar		60	lbs.
Cook to 229° F. Flavor and Color and Add:			
Citric Acid (Dissolved in water)		4	oz.
Deposit Immediately			

Formula No. 4—Pectin Type: Gum Drop Type

Water—approximately 120° F.		10	gallons
	Sugar	15	pounds
	#451 Exchange Pectin	2	pounds
	Sodium Acetate	2	ounces
	Citric Acid	2	ounces
pH 4.2 to pH 4.5 — Thoroughly mix dry ingredients and stir into the warm water. Heat to vigorous boil and add:			
Starch Slurry	Water	2	gallons
	Starch	5	pounds
Bring to boil and add in successive portions:			
Sugar		65	pounds
Corn Syrup		100	pounds
Cook to 227° F.			
Add Color, Flavor then Citric Acid (Dissolved in water) pH 3.5 to pH 3.55		4	ounces
Deposit immediately into well conditioned starch or let stand from two to four hours in hot room. Should be ready to remove from starch after 12 hours.			

NOTE: This is not a starch jelly. It is a 100% pectin jelly containing some starch which probably contributes nothing to the gel structure but does affect the chewy character and because of its decreased solubility has a dulling or buffering effect on the taste. Although it quickly develops through drying a pleasing chewy character, it is a pectin jelly and its shelf life is only limited by the stability of the flavor ingredients.

PMCA CONFERENCE

Candy Trimmings

reclaimed in usable syrup form

W. H. CHILDS
Armour & Co.

THE FIRST candy-maker, hundreds of years ago, had no problems arising from trimmings. Sweets were a rarity and demand exceeded supply.

Some thirty years ago, packaged hard candy rolls appeared on the market. More recently, cellulose bags and other transparent containers have proved to be of value as merchandising aids in selling candy. Competition has been keen in the confectionery industry. Candy to be packaged in rolls or bags must be uniform. Broken or chipped pieces create sales resistance. The candy manufacturer who wishes to meet competition and retain the good will of his customers must be increasingly on the alert to package perfect candy.

Punch presses and packaging machines may cause some trimmings. Other equipment, improper procedures and the making of experimental batches may cause more trimmings. A few candy plants may have a "returned goods problem." Back in the days when small sized batches were made, many candy trimmings were reworked into the next batch. But now, with large sized batches and operations conducted at a rapid pace, candy trimmings may accumulate faster than they can be safely reworked. In spite of very careful supervision, unexpected misfortunes may occur which will give rise to a large amount of candy trimmings.

In general, the reworking of candy trimmings is not good practice. The introduction of old candy trimmings into new batches reduces the output of the plant. Further, it complicates quality control. Orange flavored trimmings would have to be utilized in orange batches; peppermint trimmings in peppermint candy batches; etc., all of which seems old-fashioned.

In 1943, I wrote a series of articles for *The Manufacturing Confectioner*. These dealt with hard candy, chocolate candy and starch candy trimmings. I am told that these met with favorable reception although a few workers in the industry called my attention to some short-comings. If you ever wish to find out about a problem, write an article about it. But anyway, other articles had appeared prior, one of which was, "Activated Carbon: Some of Its Uses," by E. W. Harris published in the *International Confectioner* of March, 1940. Of course, Mr. Harris did not go out on a limb like I did. He said nothing about chocolate or gums.

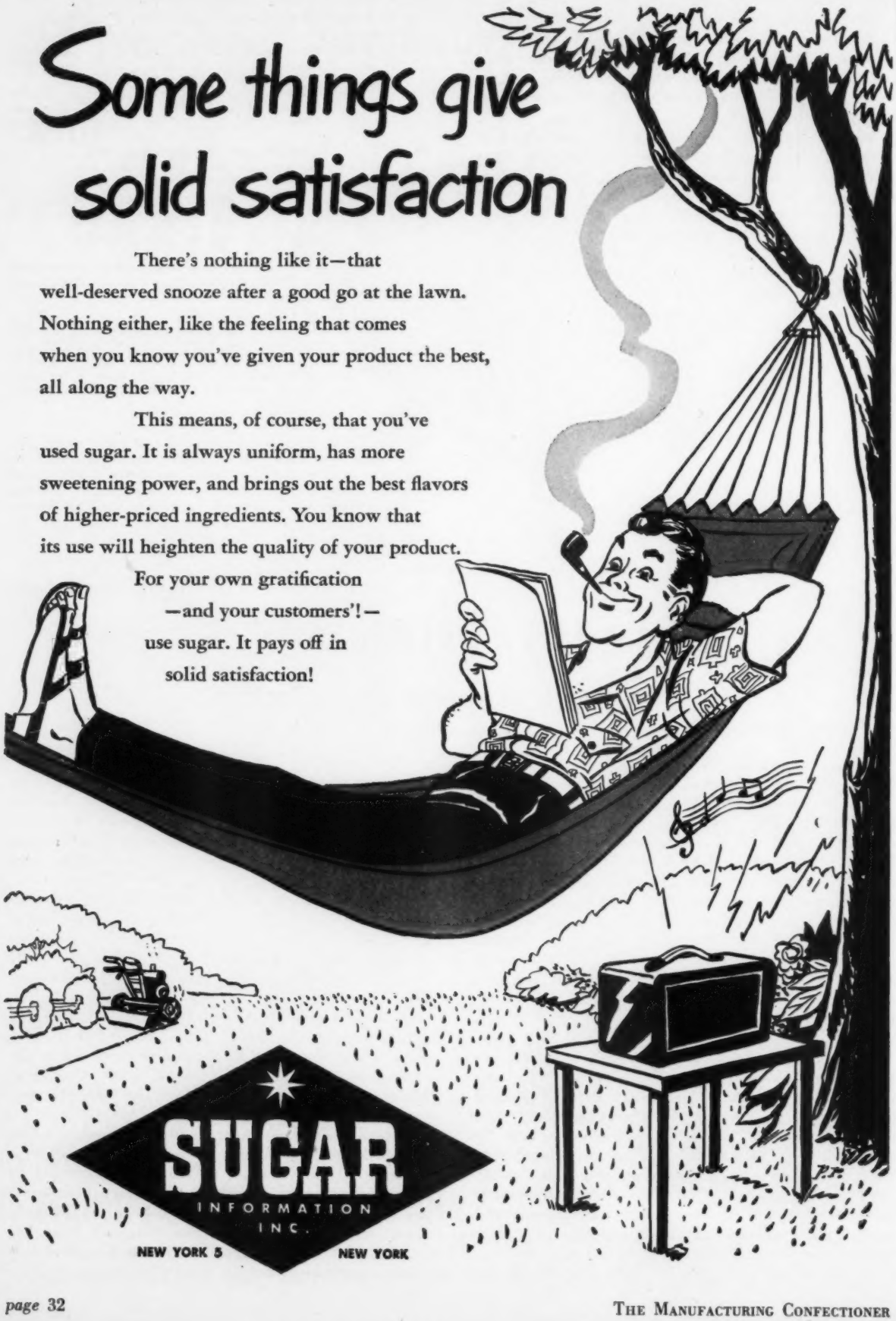
If candy trimmings are properly processed, a syrup may be obtained which may be used in different types of candy. This syrup can be chemically controlled so that its composition is uniform and having little flavor or color, can be used in a variety of ways. Candy made using reasonable amounts of this reclaimed syrup has better color, taste and keeping qualities as compared with candy containing trimming directly reworked.

Some things give solid satisfaction

There's nothing like it—that well-deserved snooze after a good go at the lawn. Nothing either, like the feeling that comes when you know you've given your product the best, all along the way.

This means, of course, that you've used sugar. It is always uniform, has more sweetening power, and brings out the best flavors of higher-priced ingredients. You know that its use will heighten the quality of your product.

For your own gratification —and your customers'!— use sugar. It pays off in solid satisfaction!



SUGAR
INFORMATION INC.
NEW YORK 5 NEW YORK

Many candies contain fruit acid, citric or tartaric, to bring out the fruit flavor. You know what happens when you re-cook candy having a high acid content. The invert gets out of control. To prevent the invert getting out of hand, it is necessary to "kill" the acid. Sometimes we use a little soda. In reclaiming candy trimmings, it is better to use Precipated Chalk. The calcium citrate or calcium tartrate which is formed may be considered sufficiently insoluble as to eliminate appreciable inversion. In other words, the composition of the syrup on a solids basis will be very nearly that of the candy trimmings.

I think you are all familiar with activated carbon. It is carbon so treated that it has a maximum capacity for removing and holding impurities that are to be removed from a liquid. There are several kinds of activated carbon on the market, each designed for a specific purpose. The producers of these carbons will I believe, be glad to tell you which type or kind is best suited to decolorize your candy trimmings.

Carbon is not the only decolorizing agent. Certain chemicals have been used in the sugar industry. However, these must be used with caution. Among the chemicals tested in connection with improving the color of syrup from candy trimmings and sugar scrap are Sulfur dioxide (prohibited in Pennsylvania), Hydrogen peroxide, lime and Phosphoric acid, Chlorine, and Chlorine dioxide. Improvement was noted in some cases but enough study was not made to find out about inversion effects.

Candy trimmings containing starch, gum drops, tailings and panned items, are difficult to filter unless the starch is solubilized. This may be accomplished by means of enzyme or acid action. The enzyme treatment has little effect upon the composition of the candy trimmings except that of breaking down the starches, that is, the sugars are not affected. Enzymes such as Invertase and Pepsin find considerable use in confectionery products. After enzyme treatment, the candy trimmings containing starch undergo the same general treatment as other candy trimmings.

Considerable complaint has been made that reclaimed candy trimmings in syrup form are not light enough in color to be used in fondants. True, many syrups are of a straw color. This may preclude the making of fondants. However, as will be shown later, some of these straw colored syrups may be subjected to more carbon treatment and the color further reduced. As many syrups are of rather low density, say 50 to 60 percent solids content, the use of 10 to 25 percent of this light, reclaimed syrup, making necessary adjustments in the formula, should not have any appreciable effect on the color. Certainly, for fondants used to grain fudge batches, the reclaimed syrup should prove satisfactory.

The reclaiming of candy trimmings to a satisfactory syrup requires adequate control and supervision. Certain precautions and a definite procedure must be practiced. The method best suited to your individual plant may not give satisfactory results elsewhere. Let's set up a tentative method for the recovery of hard candy trimmings first.

The hard candy trimmings are usually ground, a hammermill or a melangeur does a good job. Some plants separate the trimmings, keeping each flavor or color by itself. There may be some advantage on doing this though perhaps not enough to warrant the expense involved. Put 500 lbs. of the ground trimmings and 300 lbs. of water in a kettle equipped with an agitator. Add enough chalk to adjust the pH to 6.0. The amount of chalk will vary depending upon the acidity of the candy. About two and three-fourths pounds will be required if the average citric acid content of the trimmings is three-fourths of one percent. An advantage of using mixed candy is that the mixture will presumably run about the same from day to day and the control is simplified. The steam is turned on the kettle and the candy trimmings are dissolved. The batch is heated to 180-220 F. at which time a slurry of about 10 lbs. of carbon and perhaps four lbs. of filter aid in water, is added. Agitation is continued after the addition of the carbon slurry for twenty to thirty minutes. This gives the carbon adequate reaction time. The syrup is then ready to filter. When filtered, it may be adjusted exactly to a pH of 6.0 by the addition of a little soda or acid. The syrup should be cooled immediately after filtration. You will notice that this is a modification of procedures previously reported. Advantages may be stated as: (1) better flow rate through the filter gained by the higher temperature (previously, a temperature of not over 150 F. had been advised), (2) a better control of the solids content is possible through use of the boiling point, and (3) calcium citrate, the end product formed by neutralizing the acid with chalk, is slightly less soluble at higher temperatures. Perhaps, a fourth point could be made that with a temperature greater than 150 F. as previously recommended, the trimmings are much more readily dissolved.

Now, with some kinds of candy, less carbon may be used. For example, lemon trimmings will be easier to decolorize than say, raspberry or grape trimmings. Certain red and green colored candies may be difficult to decolorize. Mixing of candy trimmings assists in securing a reasonably uniformly colored reclaimed syrup. Colored, I say, because the syrup has a sort of cast, some have referred to this as straw color. Likewise, the amount of filter aid may have to be varied. Though it may be good practice to pre-coat a filter, more often it is the rule to by-pass the first few gallons back to the kettle until the syrup runs clear. As mentioned previously, the suppliers of carbon are equipped with laboratories and are able to advise you regarding the type of carbon best suited for the kind of trimmings you wish to reclaim. This goes for the filter aid suppliers, also. Your Chairman told me most emphatically not to mention the names of suppliers or manufacturers and I shall respect his wishes with but one exception for which I trust he will forgive me. But right now, I wish to say that had it not been for the suppliers, this paper would not have been written. Much of the information given here was received from the suppliers but the actual names of their clients were not divulged to me. Considerable help and suggestions were also given by candy firms who are successfully using syrup reclaimed from what would otherwise be wasted trimmings. To these firms, much credit is due, even though they must remain anonymous for the moment.

The reclaimed syrup from hard candy trimmings if made according to the outlined procedure will have a solids content of about 60%. Experimentation will show whether this is more or less satisfactory than making a more dilute syrup. It appears to be more desirable to work towards getting a high density syrup if the de-

colorization is satisfactory.

Now, let's leave the hard candy syrup and change over to syrups made from candies containing starch. The starch must be treated so that it will not clog the filter. Such treatment requires the employment of a diastatic enzyme or an acid such as hydrochloric or sulfuric. Numerous diastatic enzymes are on the market. Previously, I outlined a scheme for such treatment (Modern Methods of Candy Scrap Recovery). This has been modified as follows:

Dissolve the trimmings into syrup of about 25 to 30 percent solids content. Keep the syrup at 140 F., add the estimated amount of enzyme and agitate until tests show the desired results. It is not necessary to continue the starch digestion until a negative iodine test is given. A decrease in viscosity sufficient to enable filtration is necessary. This can be determined easily by means of a laboratory set-up of a Buchner funnel and a suction flask with the same filter medium as used on the plant filter press. In fact, this simple set-up may be used to predetermine the amount of enzyme actually needed before the larger plant size run is made. You will note that nothing has been said about changing the pH of the syrup. I think you will find that in most cases little change will be needed. However, according to Gortner and Gortner, "Outlines of Biochemistry," 1949, the desirable range for malt amylase lies between pH 4.0 and pH 6.0.

After the reduction in viscosity has been attained, the batch is treated in much the same manner as the batch of hard candy trimmings. Add about one-half to one percent by weight of carbon based on solids, agitate and heat to 180 F. and hold at this temperature for thirty minutes. Add the filter aid, filter and cool at once.

To my knowledge, no one has suggested the use of an amylase of other than plant origin. It so happens that amylases are found in high concentration in the pancreas of higher animals. Two products are available, Pancreas Substance and Pancreatin. Pancreas Substance is very powerful, one pound will digest 75 lbs. of starch. Pancreatin is one-third as strong. The temperature at which these operate is lower than that given for the high diastatic malt enzymes and the pH is slightly different. A temperature of 104 F. and a pH of 5.0 to 6.0 are optimum. The cost may preclude the use of these animal-derived enzymes. Tho company producing these products is located in Chicago and it is through their courtesy that I am able to be here with you today. Was that all right with you, Mr. Chairman?

Now, Gums, as a class of candy, have a low salvage value because of the cost of the ingredients. Marshmallows, likewise. It is rather easy to reclaim these items, gums, by merely reheating and reintroducing the resultant syrup or semi-plastic product without further refining, into darker-colored gum batches. In this case, sorting is necessary as flavors and colors are not removed. This is mentioned as an "out" for those of you who may get discouraged by the procedure necessary to "dissolve" the starch.

At times, it may be necessary to resort to the two-stage decolorization process. This involves the use of double equipment and for this reason is avoided usually. It seems much better to experiment with various grades of carbon, temperature and holding time. I have seen some batches of hard candy trimmings, a mixture of various colors, made up to a 60 percent solids basis, and treated with carbon at 180 F. to 200 F. for five to ten minutes which were lighter in color than similar batches held at high temperature with carbon for thirty minutes. There is no explanation other than that carbon functioned very rapidly.

Chocolate candy trimmings are much more difficult to reclaim than other types of trimmings. As the ingredient cost of chocolate is quite high, it becomes very important to salvage it if possible. The age-old method of reusing is to manufacture a kindred line of candy in which the chocolate trimmings may be utilized. Fudge or caramels always furnish a possible outlet.

Trimmings containing chocolate and fats are sometimes melted in water to give a solids content of about 50 percent. This mixture of water and chocolate is left overnight at a temperature about 90 F. In the morning, the scum or floating material is skimmed off. Incidentally, skimming of all batches of trimmings is advised as in many cases, paper wrappings are removed very economically by this means, and the resulting liquid is treated with carbon and filter aid. One manufacturer mixes some chocolate trimmings with other trimmings and without changing the reclaiming procedure, treats the subsequent batch with carbon and filters it. The chocolate and fats are removed by the filter. In both of these cases cited, the chocolate is lost.

The use of activated carbon is sometimes accompanied by a phenomenon known as peptization in which the carbon seems to form a complex which is unfilterable. The occurence of peptization during the treatment of candy trimmings is not common, although it has occurred often with related products such as honey. The carbon suppliers have issued suggestions so that little difficulty arises now in using carbons.

I wish to describe a set-up used successfully in the reclaiming of hard candy trimmings at one candy plant. A room is devoted to the reclaiming process. This is constructed of tight partitions so that no seepage of fine carbon dust can occur. The ground candy is brought in trucks to the room. This is weighed and dumped into a steam jacketed copper kettle. There are two kettles and one filter. This enables batch operations to be conducted almost continuously, one kettle being filled and treatment started while the batch in the other kettle is finishing. The line from the filter contains a length of Pyrex pipe so that the operator can judge the clarity and color of the filtrate. The filtered syrup is pumped to a holding tank in a cooler from whence it is distributed to the cooking floor. About 75 minutes are required to make a batch. The filter press is cleaned twice a day. The room is given a good hosing and clean-up at the end of the day.

Another plant set-up may be described as follows. The kettles for dissolving, heating and treating the trimmings are discharged, by gravity flow directly into a tank from which the treated candy solutions containing the activated carbon are subsequently pumped by air pressure to the filters. This set-up eliminates the use of mechanical pumps as the air pressures are accurately controlled.

It is difficult to say how many pounds of candy trimming are being reclaimed in usable syrup form. Estimates range from ten to twenty million pounds per year. Not all of this is trimmings, some is accountable to returned goods. Returned goods in the confectionery industry may average about one-half of one percent based on total sales. Naturally, not all of the returned goods may be

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COCONUT NEWS & PREVIEWS

By Charles B. de Maya
Mgr. Franklin Baker Laboratories

and Max E. Ruehrmund
Mgr. Franklin Baker Industrial Service Laboratory

CONFECTIONERS' CONVENTION

Be sure to visit Coconut Headquarters at the N. C. A. Convention in the Stevens Hotel from June 3 to 7. Coconut Headquarters will be at the Franklin Baker booth, #305. For any question concerning new Coconut pieces, Coconut sales potentials, or manufacturing problems, see your Franklin Baker salesman and his Industrial Service representatives at #305.

PHILIPPINE COCONUT PRODUCTION

April shipments of desiccated coconut from the Republic of the Philippines totaled 7,227,000 pounds. This compares with 11,877,000 pounds in April 1950. The cumulative figures for the first four months are also below last year—26,216,000 pounds versus 40,059,000 pounds. It is generally believed sufficient supplies are available in the United States and afloat for the normal requirement of the confectionery trade.

ORANGE COCONUT CREAMS

For an easy-to-make summer piece that has established consumer acceptance consider delicious Orange Coconut Creams. They are made with Baker's Gem and Creamed Coconut plus whole fresh oranges. Write for formula.

COCONUT POPULARITY ABROAD

Recent reports from Great Britain and Canada confirm the universal popularity of Coconut candies. Interest in both countries in Coconut confections and baked goods is showing a marked increase even in the face of substantially higher coconut costs than prevail in the United States.

COCONUT BUTTERSCOTCH KISSES

A recently developed formula for Coconut Butterscotch Kisses has produced a new confection taste treat. Using fresh butter and Baker's Creamed Coconut these kisses can be made in a wide variety of flavors—such as lemon Coconut, orange Coconut and many others.

See next page

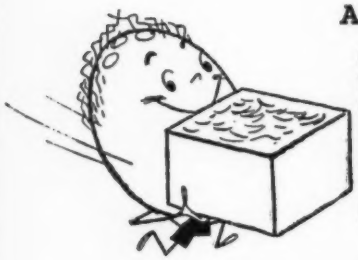
HEAT CONTROL AND SLANTING SIEVES

The Part They Play in Helping You Turn Out Superior Coconut Pieces

In a highly competitive candy market, only top-quality pieces can hope to attract repeat sales and win steady customers.

And top-quality candies depend on top-quality ingredients. In the case of coconut pieces, that means coconut that has fresh, natural flavor, that is uniform in moisture content, that is consistent in cut size.

For some time this series has been discussing the various processes used in preparing top-quality coconut. The initial steps in the operation have been outlined. Now let's look at the ideal methods of sealing in tree-ripened flavor, for controlling moisture content, and for achieving more uniform cut size.

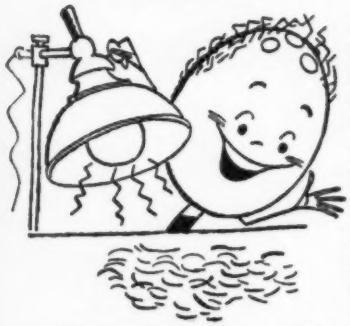


Accent On Speed

Once the coconut meat has been cut, it is essential that it be processed immediately. Any delay at this critical stage will result in loss of flavor or, worse, enzymatic spoilage.

In our ideal plant, the coconut falls directly from the cutting machines on to a continuously moving mesh belt. The belt carries it immediately into the drier. At the mouth of the drier, mechanical spreaders smooth the coconut into an even blanket. A stationary comb, straddling the width of the belt, fluffs up the coconut so that the greatest surface area will be exposed to the heat.

Heat Control—What It Accomplishes

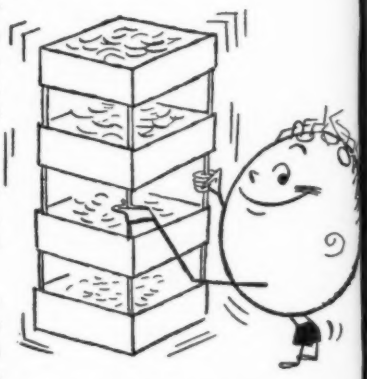


Fresh, ripe Philippine coconut contains about 52% moisture. The drier must evaporate most of the moisture without impairing the delicate, fresh coconut flavor.

The drier consists of a long tunnel which is separated into five compartments. Each compartment is heated to its own special degree of temperature. The coconut passes on the belt into the first compartment, where it loses moisture. Then it goes on to the next cooler compartment, and the next, until it has passed through all five. As more moisture evaporates, cooler temperatures are necessary in order to achieve top flavor.

By the time the shreds have passed through all five stages, their moisture content has dropped to a uniform per cent, depending on the length and thickness of the shreds. The delicious tree-ripened flavor has been sealed in.

For Uniform Cut Size



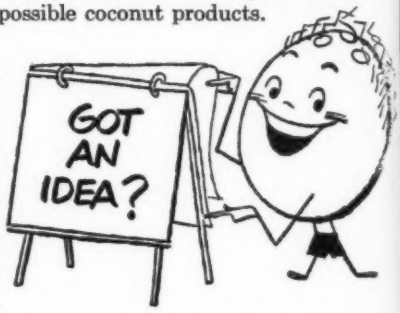
As explained in another article in this series, the coconut is cut or shredded by machines which produce various cut sizes. Greater uniformity is achieved by sieving. So when the coconut comes out of the drier, it falls directly into a series of sieves.

The sieves are rectangular screens set one above the other, the ones with the largest mesh on top. They are rotated by machine in a sifting motion. They are tilted slightly to allow particles which cannot slip through the openings to slide off into chutes—a different chute for each screen.

Thus, uniformity of cut, so important to the character of your coconut candies, is as nearly perfect as practical modern methods can make it.

Best Possible Products

The techniques described above are part of the *Franklin Baker* way of processing coconut, as carried out in the Franklin Baker processing plant in San Pablo, Republic of the Philippines. Here, modern techniques and equipment are combined with years of coconut experience to bring you the best possible coconut products.



Candy manufacturers are full of ideas for new pieces, but are often too busy to develop them. Why not let Franklin Baker's Industrial Service Laboratory help you work them out—in strictest confidence, of course. Or perhaps we can help by showing you new pieces *we* have developed. They may suggest something that will fit into your own production line. Our trained experts are at your service—*free!* Write Franklin Baker, Hoboken, New Jersey, for information.

HEADQUARTERS FOR COCONUT, **FRANKLIN BAKER DIVISION,** GENERAL FOODS CORP., HOBOKEN, N. J.

A type of coconut for every confectionery need. Complete line includes the following famous brands:

Gem Philippine Coconut *(10 varieties)* **Golden Toasted Coconut** *(7 varieties)*

Tender-Fresh Coconut *(4 varieties)* **Baker's Creamed Coconut** *(2 varieties)*

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reclaimed. Nor can all candy trimmings. It is positively against the best interests of the confectionery industry to make any attempt to reclaim spoiled, dirty, or insect-infested candy. Candy trimmings must be clean and edible to merit reclaiming. Many companies recognize their responsibilities to the public in this regard. It is important that all companies use their influence to prevent reclaiming products of questionable nature.

Practically all of the larger candy factories are now reclaiming their hard candy trimmings. During the recent war, when sugar was in short supply, a soft drink franchise holder purchased candy trimmings from a small candy company and reclaimed this material with activated carbon to augment his allotment of sugar. At the same time, a large manufacturing retailer purchased some Cuban hard candy for the same reason. This was treated in the described manner, and the resulting syrup used in fudges, some fondants and pectin jellies.

The reuse of syrups left over in the preparation of glace fruits has been made possible through the use of activated carbons. Artificially colored Maraschino cherry syrups have been successfully recolorized and rendered suitable for reuse in candies and other food products.

It may be of interest to mention that ion exchange resin treatment shows promise in producing light colored syrups. When run through ion exchange systems, the syrups must be diluted to 30 or 40 percent solids content. If a clear syrup is desired, filtration and or treatment with carbon may be necessary. To my knowledge, no installations of ion exchange resin systems have been made in candy plants for this purpose.

The Kroger Process for Reclaiming Candy

It is my privilege to be able to present to this Symposium, a new, novel process for reclaiming candy trimmings. This process was developed at considerable cost and required a long time to perfect. I believe we shall all benefit through the generosity of the Kroger Company in making their process known at this time.

Certain factors such as temperature and pH do not allow for much tolerance. The following process may require some revision before suitable for use in all plants.

A—Conversion

1. Add 3700 lbs. of assorted gum trimmings (containing no appreciable quantities of coconut, chocolate coated centers, or marshmallow) to 450 gals. of water in a Lastiglass-lined tank. Constant agitation is necessary until solution is effected.
2. Heat the contents of the tank to 185 F. and hold until the trimmings are completely dissolved. Raise the temperature to 190 F.
3. Add 35 to 40 lbs. of C. P. concentrated Sulfuric Acid at the rate of 4 lbs. per minute to obtain a pH of 2.0 or 1.5. Hold this solution at 190 F. for 25 minutes.
4. Determine the end-point of the conversion by means of a 3% Iodine Solution; the end-point is a Burgundy color. When the test shows that the conversion is complete, immediately neutralize by means of Calcium carbonate; 40 to 45 lbs. will be required. Adjust the pH to 5.1 or 5.3.
5. Cool the above solution to 140-145 F. Add 48 lbs. of activated carbon previously wet with water.

B—Preparation of Filter and Filtration

1. Fill the pre-coat tank to about 9/10 of its capacity with the solution from the Lastiglass tank. Add 30 lbs. of filter aid with constant agitation. To the contents of the Lastiglass tank, add 75 lbs. of filter aid.
2. Circulate with constant agitation the contents of the pre-coat tank through the filter and return until the solution is clear in the sight glass. Then divert the flow to the stainless steel tank and adjust the flow of the solution from the Lastiglass tank through the filter to the stainless steel tank.
3. When the Lastiglass tank is empty, blow the liquid remaining in the filter to the stainless steel tank by means of air.

C—Concentration of the Syrup

1. Add 3700 lbs. of assorted hard candy trimmings to the contents (filtrate) of the stainless steel tank and dissolve completely by constant agitation.
2. Wash the filter. Add 189 lbs. of activated carbon previously wet witht water to the solution of candy trimmings in the stainless steel tank.
3. Adjust the pH of the solution to 4.8 and hold for 30 to 40 minutes at 140 to 145 F.

D—Preparation of Filter and Filtration

1. Fill the pre-coat tank about 9/10 of its capacity with the concentrated syrup from the stainless steel tank. Add 30 lbs. of filter aid with constant agitation. Circulate under constant agitation the contents of the pre-coat tank through the filter to the stainless steel tank until samples taken in fruit jars at five minute intervals are consistant in clarity.
2. Add 15 lbs. of filter aid to the contents of the stainless steel tank. Divert the flow which is clear, to steel drums or other containers. The stainless steel tan solution is passed through the filter. Samples from each drum or container are submitted to the control laboratory for approval.
3. When the pre-coat and stainless steel tanks are emptied, the liquid remaining in the filter is blown by air to the Lastiglass tank. The filter is then cleaned.

E—Equipment Used

The equipment mentioned in the above consists of:

1. A Lastiglass-lined tank of 1000 gal. capacity. This tank is fitted with a steam coil.
2. A stainless steel tank of 1000 gal. capacity with a steam jacket on the lower half.
3. A pre-coat tank of approximately 270 gal. capacity.
4. A filter with a 330 gal. capacity.

Each tank is equipped with an agitator and the two large tanks are equipped with thermometers.

The operator has a pH meter and iodine test kit.

F—Complete Formula

Water	450 gals. (approx.)
Assorted Gum Trimmings	3700 lbs.
Assorted Hard Candy Trimmings	3700 lbs.
Sulfuric Acid, C.P., 1.84 Sp. Gr.	35 lbs. to 40 lbs.
Calcium Carbonate, U.S.P.	40 lbs. to 45 lbs.
Activated Carbon	237 lbs.
Filter Aid (three kinds)	285 lbs.

G—Notes

When candy trimmings are not available in the ratio mentioned in the formula, compensation is made, and syrup is prepared by special treatment. The person responsible for the reclaiming operation should be capable of using judgement. He should know the composition and the ingredients of the various types of candy.

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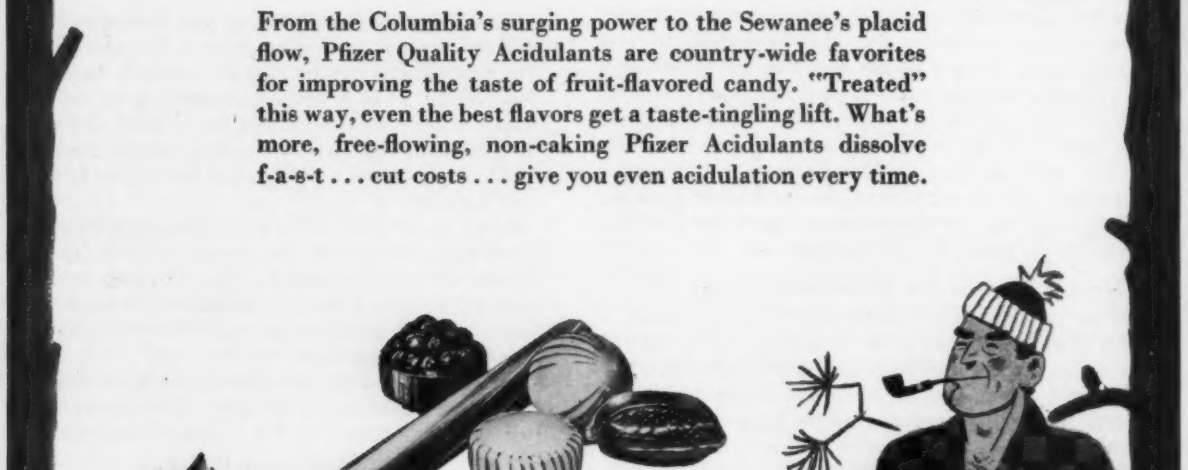

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How to extend shelf life in confections

JUSTIN J. ALKONIS
chief chemist
Paul F. Beich Company

NOT LONG AGO I received a letter from a leading research man working on the fermentation process of cacao beans, saying: "We are working on the problem, but it is hard to devise a rather precise procedure which can be followed without using any new equipment and without spending any money. This is as contrary to the laws of nature as the dual personality talk by chocolate manufacturers."

If you candy men came here today expecting to extend the shelf life of your confections without the use of some new equipment and without spending any more money than you are with your standard ingredients then I am afraid I am wasting your time. I have never owned a crystal ball nor have I a magic wand, although in my younger days I have posed as a magician.

There are many ways that you can improve your product by the use of standard corn syrup, sugar, and the common raw materials that are available to the confectioner. The candy makers are taking the advantage of this know-how.

How often have sales people approached your organization that they have the magic additive that will give to confections the desirable body, maintain the proper moisture balance for long periods of time, reduce cooking time, produce greater yields, save you money, and improve the eating quality of the confection? The difference as I see it is that we candy men see cream as it really is. A salesman sees cream all right, but it's whipped cream; he has added a lot of air to it. If I were to properly evaluate the hundreds of samples of new ingredients that pass over my desk in a year's time, it would take a laboratory staff of several hundred technicians with a three to five year research program. Very few suppliers will furnish you with detailed laboratory or scientific data showing where their product actually excels.

Due to the time alloted me I am limiting my remarks on the subject of extending the shelf life of confections to the part the retention of the *proper moisture balance* plays in all confections over prolonged periods of time. One of the most severe criticisms of candy on the market today is the staleness of the center that results from the ordinary shelf life of confections at the retail level. I realize the simple solution to this problem would be to make confections so good that they will not remain on the shelf. Let's face the facts. When manufacturer's candy is accepted by a shipping concern, whether it be truck, rail, or boat, the manufacturer at that point loses his relative control over the product. How this product will be handled, how long it will be kept in transit, when ti will be delivered to jobbers, and when it will reach the retail level is an unpredictable factor. From retail level to consumption is also an unpredictable factor. Therefore, those of you that ship candy interstate are faced with a shelf life problem of one month to three months and in some cases even longer. The temperature and relative humidity vary throughout the United States. Not only this but in a vast majority of retail outlets artificial heat is used during most of this period and this is naturally a period of low relative himidity.

In order to maintain this moisture, candy men have relied on corn syrup and invert sugar to retain moisture. In recent years corn syrup has shown much improvement due to the high conversion and enzyme reacting syrups. These have lowered considerably the dextrine content and have produced syrups that will hold moisture in confections. Invert sugar has been improved to have a high levulose content which has improved its moisture retaining quality. Even with these improvements in raw materials, Colonel J. S. Kujawski, Commandant, Quartermaster Food and Container Institute recently called upon candy manufacturers to conduct continuous research in order to help the armed forces solve their food problems. The top priority need right now on one of the items "A method to prevent drying out of the inside of the candy bars."

In the past year we have evaluated in our research laboratories numerous gums, starches (that are high in amylopectin of both arrowroot and the corn variety), seaweed preparations (Irish moss, domestic agars, alginates), ketose bearing syrups, glycerin, emulsifiers, and d-Sorbitol. All of these mentioned moisture holding ingredients are very useful in extending the shelf life of confections and every progressive candy maker should evaluate these products in his own brand of confection. Either one or a combination of these will work out satisfactorily. Sodium alginate has good moisture retaining properties, but is too expensive to be used extensively by the candy maker at the present price. It seems that the candy maker has overlooked the fact that soya proteins, sometimes called soya albumen, used alone as a whipping agent or with egg albumen has excellent properties as a moisture retaining agent. A fudge made with soya proteins will retain more moisture than the corresponding fudge made with the egg albumen.

The product that we have recently been doing a lot of evaluation work on is Sorbitol. Since most of you candy makers are familiar with the above mentioned products and without meaning to detract from any of them, I would like to discuss with you this new product Sorbitol.

Sorbitol—Thirty years ago this name would have

good flavor is the best wrapper in the world

Sure, the outside wrapper should be attractive, colorful, arresting . . . but make doubly sure that GOOD FLAVOR, QUALITY FLAVOR is the **basic** ingredient of your candy. An outside wrapper does not create **repeat sales**—but good flavor does!

For **remembrance value**, for **repeat sales**, for **climbing sales** look to D & O Flavors . . .

The best wrapper in the world for your candy.

D O

DODGE & OLCOTT, INC.

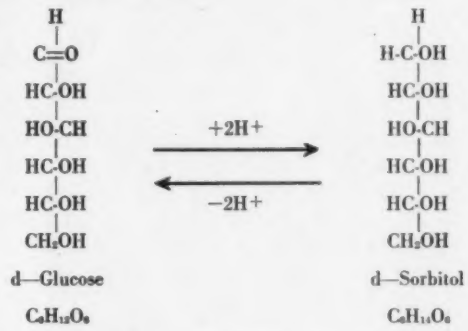
180 Varick Street • New York 14, N. Y.

ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS • LOS ANGELES • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES

meant nothing to anyone but a research chemist. Today it should mean something to any candy maker who is troubled with candy drying in storage, for Sorbitol will keep candy soft and retain its original moisture over a wide range of humidity variations.

Sorbitol is a white crystalline product which is derived from corn sugar. It occurs naturally in quince, pear, cherry, plum, peach, apple, and many other fruits and berries. Its cost if extracted from its natural state would be prohibitive as an ingredient for the candy maker. However, since it is made commercially by adding hydrogen to the purest corn sugar, its price has been decreasing and new uses for it are being found daily. The close chemical relationship of Sorbitol to glucose is shown by the following formulae:



d—Glucose $C_6H_{12}O_6$ d—Sorbitol $C_6H_{14}O_6$

To the confectioner, sorbitol is supplied in the form of a 70% solids aqueous solution called *Sorbo**. It is also supplied in the pure crystalline form, either in pellets or powdered. The lowest price per pound on a dry basis is the material supplied as *Sorbo*. Sorbitol has a cool, bland, sweet taste and is digested to yield practically the same energy as glucose. However, because it is less prone to produce hyperglycemia and places less of a load on the impaired-pancreas than do the sugars, sorbitol has been widely used in both the United States and abroad as a sweetening agent for diabetic foods. Sorbitol has a laxative threshold of approximately 50 grams per dose, with some authorities reporting it to be as high as 80 grams per day. (It is well known that other higher alcohols as well as the sugars also have laxative properties when ingested at sufficiently high levels.) In addition to diabetic foods, sorbitol is used extensively in pharmaceuticals such as toothpaste, mouthwashes, gargles, etc.

Until three years ago Sorbitol has been used in smaller amounts for specialty applications in candy, for example —to prevent cracking and shattering during shipment for hard candy, to make candy fruits less brittle and softer, and to keep chewing gum soft. It has also been used in cake icings to prevent hardening. However, roughly three years ago the research laboratory of the Paul F. Beich Company initiated plant scale tests to determine whether substantial amounts of Sorbitol would offer any improvements over the generally used invert sugar, enzyme reacted syrups, and the many specialty products on the market. The results were encouraging.

The Quartermaster Corp of the Armed Forces has been interested in a fudge that would not dry out. It has been said that the fudges that were supplied to the Armed Forces in the last war were useful to straighten out the dents in Army vehicles as some of these products actually got as hard as stone. If you would ask any candy maker if he could make a fudge that would remain soft, the answer would be in the affirmative and this he can accomplish for a fudge of limited shelf life. If a fudge is to remain soft for periods of over six months and in some instances over a year some humectant must be added.

Hundreds of samples of fudge were prepared using various percentages of Sorbitol. Accelerated shelf life tests were made using a cabinet of 5% relative himidity and 95° F. (It has been found by previous experimentation that one week in this cabinet is equivalent to a month of ordinary shelf life for confections.) Various percentages of Sorbitol in fudge were made, but a fudge containing approximately 15% *Sorbo* resulted in the extended shelf life that we have been searching for. The fudge is in military specifications for candy confections for Quartermaster Corp. Take your best fudge formula and replace 10 to 15% of corn syrup, invert, or sugar with Sorbitol and you will have a confection with extended shelf life—if you are from Missouri or Pennsylvania—make it with and without Sorbitol—place both of them on any shelf or in a dry atmosphere for 3 months. Then give it the plain taste test. You won't have to run a complex moisture test. A vanilla fudge for extended shell life was made with the same formulation as above except that the chocolate liquor was omitted. Dr. Kenneth T. Farrell, Chief of General Products Division of Quartermaster Food and Container Institute and his able assistant, H. B. Cosler, have cooperated in testing these candy bars.

Sorbitol was also used in grain marshmallow Easter Eggs using approximately 15% *Sorbo* and here the story was that the grain marshmallow retained the original freshness for over a period of 6 months. This item was nationally distributed and since Easter items are sold when artificial heat is used in candy stores, the relative humidity under which the candy is sold is in a drying atmosphere in 90% of the cases. Checks were made in various locations and they agreed with the laboratory data in which the candy retained its original freshness for a period of over 6 months. In fact, we have laboratory samples that are three years old, and as far as texture is concerned, the candy is as good as the day it was made.

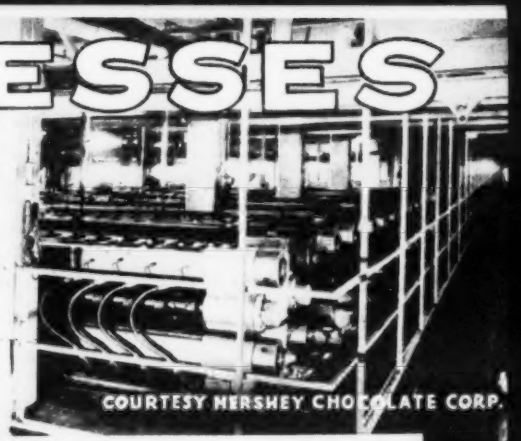
Sorbitol may be used in any confection where moisture retention is desirable. It works in coconuts, creams, and grained nougats equally as well. The percentages of Sorbitol is up to the candy maker. It approaches the ideal as a conditioning agent as it has the narrowest humectant range—that is, its water holding power changes less with humidity variations.

Since the retention of moisture in a confection that has fat, has a tendency to aid rancidity the use of a combination antioxidant is desirable. This combination that is being used in the new Quartermaster Specifications consists of 20 parts Butylated Hydroxanisole (Tenox and Sustane)[1] 6 parts of Propyl Gallate and 4 parts Citric Acid dissolved in 70 parts of Propylene Glycol. This combination is very effective in protecting any confection containing fats and will not destroy the delicate butter flavor or odor in butter-creams or caramels. This combination is also effective in prolonging the shelf life of nuts and nut-butters. An excellent paper on this work was done by the Georgia Agricultural Experiment Sta-

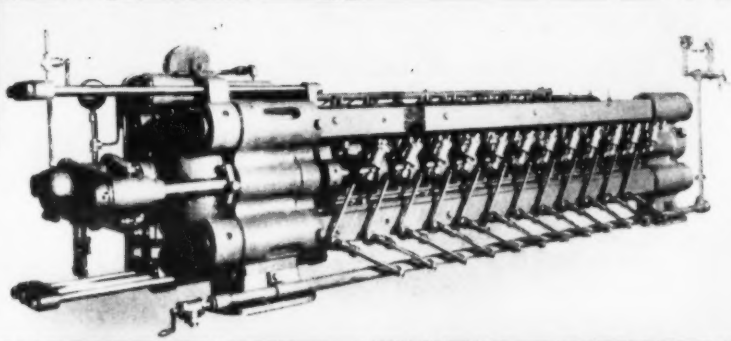
CARVER COCOA PRESSES

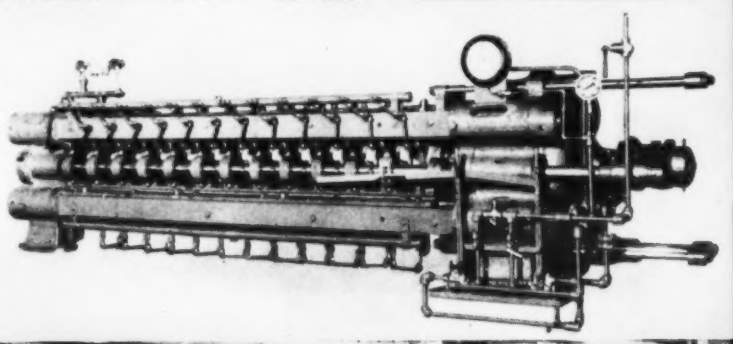
COURTESY OF BLUMENTHAL BROS.

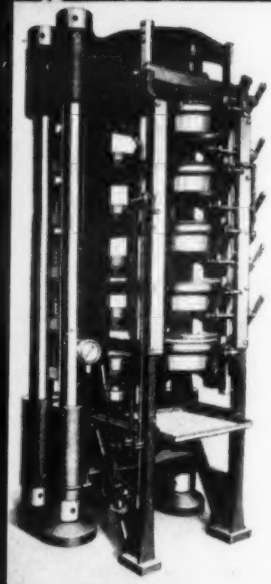
COURTESY OF ROCKWOOD & CO.

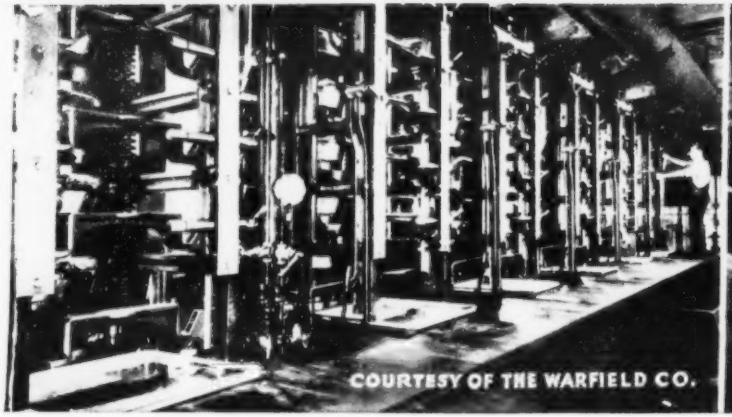


COURTESY HERSHEY CHOCOLATE CORP.

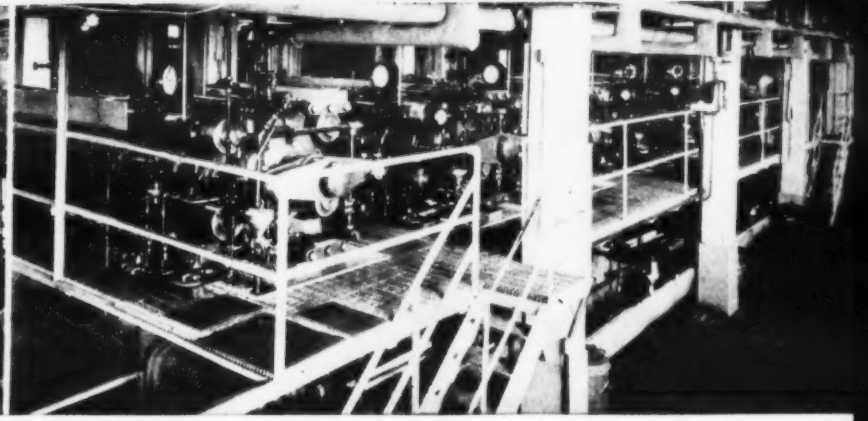








COURTESY OF THE WARFIELD CO.



STANDARD THROUGHOUT THE WORLD

FRED S. CARVER INC.
HYDRAULIC EQUIPMENT
345 HUDSON ST. NEW YORK 14, N. Y.

STANDARD THROUGHOUT THE WORLD

FRED S. CARVER INC.
HYDRAULIC EQUIPMENT
345 HUDSON ST. NEW YORK 14, N. Y.

tion. The following chart containing the stabilities of fats and oils containing this combination, which in this case was Tenox II, are listed as follows:

Fat	AOM Values (hours) at Peroxide Values of 20 & 100 Control 20 P.V.	100 P.V.	.05% Tenox II 20 P.V.	100 P.V.	.10% Tenox II 20 P.V.	100 P.V.
Coconut Oil	22	33	326	390		
Vegetable Shortening ...	22	76	43	99		
	52	155			117	252
Peanut Oil	½	16			12	41
	7	19	15	36		
Cottonseed Oil ..	7	14			14	27
	5	14	12	21		
Corn Oil	3	10			8	22
	1	7	8	19		
Soybean Oil ...	1		3			
	1½	7½	5	15		
Orange Oil	0	1	0	6		
Hydrogenated Peanut Oil ...	2	41			6	83

Eating qualities of confections containing fat and moisture are improved by the addition of emulsifiers. We have found that excellent results can be obtained by adding .5 percent of Spans 60 and Tweens 60[2] to the amount of fat that is in the caramel as this will produce a caramel of better eating qualities and reduce stickiness.

Coated bars maintain the proper moisture balance more effectively than in uncoated bars. The proper combination of hydrophilic (water loving) and lipophilic (fat loving) emulsifier combinations to these coatings, better shelf life not only to the coating but to the centers they cover. A paper on this work co-sponsored with Dr. Farrell of the Quartermaster Corp will be presented at the Institute of Food Technology meeting in June entitled "Improvement of Cocoa Type Coating for Use in Army Rations."

The food field has taken rapid strides in the use of antioxidants, emulsifiers, and humectants. The use of emulsifiers in the production of ice cream has been the making of that industry. The baking industry has been very progressive in the use of various types of emulsifiers, antioxidants and humectants. Since the Quartermaster Corp has taken the progressive lead for the candy industry these new materials will be more and more accepted by the candy industry. I want to emphasize that the use of antioxidants, emulsifiers or humectants in candy are a means of *making good candy better*. They are not intended and can not be used to cover up poor methods of manufacturing or upgrade substandard raw materials.

Sorbitol is at present in very tight supply. A recent note in "Chemical Industries" can explain this: "Shortage and NPA Control of glycerine has caused consumers to scurry for substitutes. That may be a contributing factor in Atlas Powder Company's current expansion of Sorbitol capacity. A 50% increase was completed early this month, and an equal additional increase is slated a few months hence." In the candy field Sorbitol is not a substitute for glycerine. Its many desirable properties make it a better product and since it is not a by-product but a product of the corn industry, its supply will increase, which in turn should lower the price as has been true of the chemical industry in practically all other similar items. The price will no doubt be stabilized where it will be a commonly used ingredient in confections. Its the old story where a product of animal origin cannot compete with a product of vegetable origin. Similarly, lecithin from animal sources was quoted in dollars, now being produced from a vegetable source it is quoted in cents.

It is my understanding that at the present time Sorbitol is not available and within a year a new plant shall alleviate the situation somewhat. Every progressive candy maker will keep this humectant in mind and paraphrasing the old timers when they saw the first automobiles "Sorbitol is here to stay".

*Sorbo—Trade Mark Atlas Powder Company
(1) Tenox Trade Mark of Tennessee Eastman Company Sustane-Universal Oil Product Company
(2) Spans and Tweens. Trade Mark Atlas Powder Company

PMCA CONFERENCE

Dairy Products in Confections

RAY W. MYKLEBY
Land O'Lakes Creameries, Inc.

THE CONFECTIONERY industry is one of the dairy industry's good customers. My presence on this program, I believe, attests to the fact that you, as confectionery people are interested in the kind and quality of the dairy products you use.

I would like to start with the fluid whole milk as it is produced on the dairy farm; then discuss the properties of the individual constituents of milk; from there, discuss the merits of the various dairy products in candies and spend a little time on certain features of milk powders as they may apply to your industry.

The Composition of Milk

Milk, (whole milk) is composed of a large number of substances. Quantitatively, the composition of milk is approximately as follows:

Butterfat	3.8 %
Lactose	4.75%
Protein	3.3 %
Minerals	.65%
Water	87.50%

The whole milk with butterfat removed is usually referred to as nonfat milk solids or in other cases skim milk.

Milkfat (butterfat) is composed of a mixture of some eleven fatty acids with melting points varying from —0.6° F. up to 170° F. The greater portion of these fatty acids, however, fall in the range between 82° and 97° F., which for practical purposes can be considered the melting point of butterfat. Butterfat itself performs

PRODUCT	TITRATABLE ACIDITY	TYPICAL COMPOSITION OF MILK AND MILK PRODUCTS: FAT	MILK SUGAR LACTOSE	OTHER SUGAR	PROTEIN	MINERALS	MOISTURE	TOTAL SOLIDS	VITAMINS PRESENT
FLUID WHOLE MILK	.16%	3.80%	4.75%	-	3.30%	.65%	87.50%	12.50%	A B^1 B^2 PP C D
FLUID SKIM MILK	.17%	.10%	4.80%	-	3.60%	.70%	90.80%	9.20%	- B^1 B^2 PP C D
40% CREAM	.11%	40.00%	3.00%	-	2.00%	.50%	54.50%	45.50%	A B^1 B^2 PP C D
50% CREAM	.105%	50.00%	2.45%	-	1.75%	.35%	45.45%	54.55%	A B^1 B^2 PP C D
SWEET COND. WHOLE MILK	.40%	8.50%	10.50%	44.00%	7.50%	1.50%	28.00%	72.00%	A B^1 B^2 PP C D
SWEET COND. SKIM MILK	.55%	.50%	12.70%	47.50%	8.80%	2.00%	28.50%	71.50%	- B^1 B^2 PP C D
PLAIN COND. SKIM MILK	.75%	.45%	16.20%		10.95%	2.40%	70.00%	30.00%	B^1 B^2 PP C D
UNSWEET. EVAP. MILK	.40%	7.90%	10.00%		6.60%	1.40%	74.10%	25.90%	A B^1 B^2 PP C D
WHOLE MILK POWDER (28% FAT)*	.14%	28.20%	38.00%		25.80%	6.00%	2.00%	98.00%	A B^1 B^2 PP C D
NONFAT DRY MILK SOLIDS *	.12%	.75%	50.50%		37.55%	8.20%	3.00%	97.00%	B^1 B^2 PP C D
SWEET CREAM B.M. POWDER *	.12%	5.00%	47.80%		35.90%	7.80%	3.50%	96.50%	A B^1 B^2 PP C D
HI ACID B.M. POWDER *	.50%	6.00%	40.10%	LACTIC ACID 5.50%	35.80%	8.40%	4.20%	95.80%	B^1 B^2 PP C D
MILK FAT (BUTTEROIL)	.00%	99.90%		-			10%	99.90%	A - - - C D

B^1-Thiamine, B^2-Riboflavin, PP-Nicotinic acid (Niacin), C-Ascorbic acid,* on reconstructed basis.

the same physical function in candy as does any other fat of the same melting point.

The most important function of milk fat in candy is to transfer milk flavor from milk to candy. Candy flavor is probably improved more by the addition of milk fat to the candy base than by the use of any other ingredient. However, because of the chemical structure of butterfat, it can also cause serious flavor deterioration in candy.

Rancidity as a result of hydrolysis and oxidation can be very troublesome when milk fat is used in any food. To avoid these difficulties, good quality milk fat should be used and the candy ingredients cooked well during manufacture.

Lecithin, a phospholipid, as associated with the fat fraction of milk and is usually recognized for its emulsifying properties. This emulsifying property is especially useful in the manufacture of such confections as milk chocolate and butterscotch.

Most of the lecithin in milk is found in the so-called "fat-globule membrane" which surrounds the fat globules in milk or cream. In the butter churning process this "fat-globule membrane" is removed and carried away in the buttermilk. Buttermilk products are often in demand by confectioners, and other food industries for this very reason.

Lactose (milk sugar) is a disaccharide with a relative sweetness of approximately 16 as compared with 100 for sucrose. It is sometimes used in candies of high sugar content because of this particular characteristic. Lactose is less soluble than the other common sugars which is a point that must be understood in using milk products in Confections. Also the association of protein and lactose during cooking helps to produce the attractive brown color of many candies.

The proteins of milk consist largely of casein (calcium caseinate) with relatively small quantities of albumin and globulin. In the processing of dairy concentrates for the eventual user, the dairy manufacturer can control the physical condition of these proteins by the various processing treatments used. It is possible, for example, to treat milk in such a manner that albumin and globulin are coagulated with the casein remaining in its undenatured form. It is further possible to treat milk so none of the proteins are coagulated or so that all of them are coagulated.

Milk protein is essential to the development of proper body, flavor, and color in such cooked candies as caramel and fudge. The favorable characteristics produced by milk protein are largely developed in the candy mass during the cooking process.

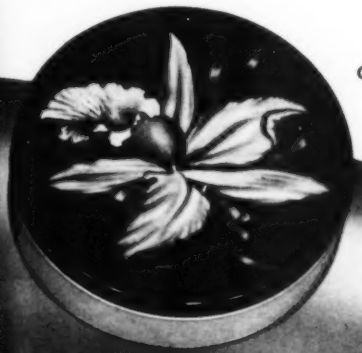
In candy making the cooking process makes the coagulation of all these milk proteins almost inevitable, because of the high temperatures used plus the high concentration of other solids present. It is therefore, the fineness of this coagulum, that determines to a large extent the smoothness of the candy. The fineness of the casein coagulum is governed by the conditions present at the time of coagulation, such as speed of agitation and the viscosity of the hot mass at the time coagulation takes place.

The minerals of milk aside from their nutritional value are possibly of little practical significance to the confectioner. I say this with the possible exception of Dry Whey products where the mineral content may be a limiting factor to their use in large quantities.

Water, which makes up 87.5% of fluid milk, need not be discussed here except to mention that its presence is an important reason for the various manufacturing processes so well established in the dairy industry. In other

(Please turn to page 95)

As colorful as a rainbow



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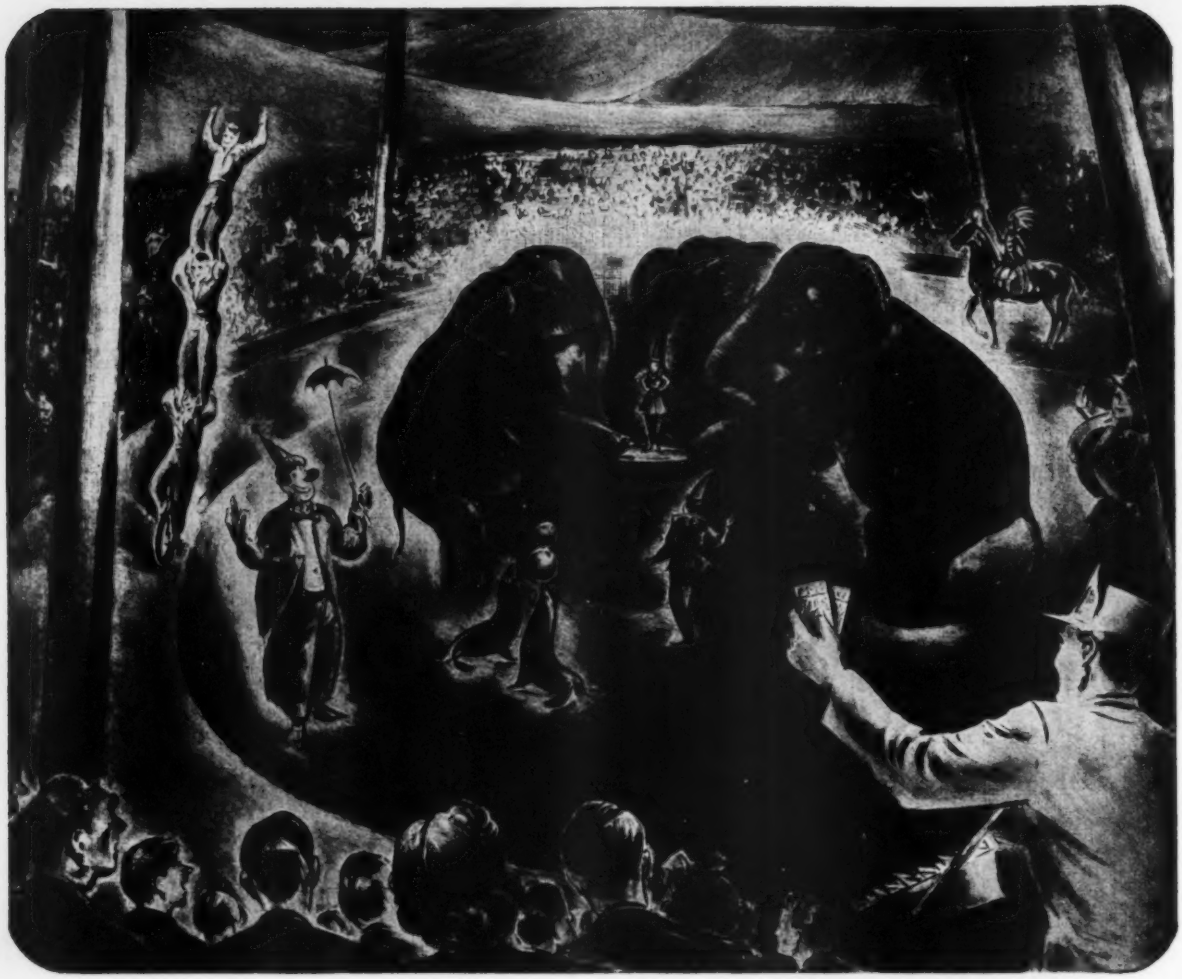

AN ORIGINAL LITHOGRAPH BY HENRY E. WINZENRIED

"PEANUTS . . . POPCORN . . . POTATO CHIPS"

People love to nibble. Peanuts, popcorn, potato chips and similar delicacies have attained phenomenal sales volume throughout the country. Like all good things to eat, they must be kept fresh and appealing through well-engineered functional packaging. Many special Riegel papers have been developed for this field . . . papers that are highly protective . . . attractive to the eye . . . and that work well on high-speed machinery.

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Sales Clinchers

Point-of-purchase displays

CLARA BALDWIN
Candy Merchandising

SALES ARE clinched at the moment of purchase, especially candy sales. For that reason, point-of-purchase display becomes a indispensable factor. Yet according to an article appearing in the March 15 issue of *Sales Management*, of the 5.6 billion dollars spent by U. S. advertisers during the year 1950, only 500 million was spent on point-of-purchase media. Often the success or failure of a whole national advertising campaign is hinged on the proper point-of-purchase display, or lack of it, reminding the customer of that brand-name at the crucial moment. The article points out that "the effect of all advertising is clinched at the store", and in addition "point-of-purchase may spark 50 billion dollars of unplanned buying," since shoppers usually buy more than they intend.

With point-of-purchase space of such importance, needless to say, manufacturers are vying with each other to obtain coveted position for their displays in store windows and in interior areas.

There was the report of one candy retailer who requested displays from six manufacturers, and threw five away.

In a survey made of 300 varied retailers by "Merchandising the advertising" committee of the National Association of Advertisers, 67 percent were reported using less than half of all the window display material and 76 percent less than half of all counter display material received from national advertisers. That number included 9 percent of stores using "very little" or none of the material, and 15 percent that used near zero in counter material.

The big question then becomes: what will the retailers use?

More and more, the retailers are going on record as to the type of displays they want to use, and those manufacturers who are going along with them, in really trying to do a job for the retailer as well as themselves, are the ones who get prior position.

Fundamentally the retailers are interested in displays for products which have consumer acceptance, products with good turnover, good profit, good impulse items, and displays that are effective, easy to assemble.

A study made by *Progressive Grocer* showed that 94 percent of those grocers using point-of-purchase material favored easel cards, posters with product identification which had a health appeal and a 'buy now' angle. Also, the grocers liked cardboard dispensers.

The officers of the Einson-Freeman Company, Inc., N. J. Leigh, Lawrence J. Engel, and Albert Hailparn, who are themselves retailers at heart and idea salesmen, point out that retailers want those displays which:

1. boost sales of high-profit items or top loss leaders.
2. sell related items
3. stimulate store traffic
4. are easily assembled
5. are sturdy enough to withstand hard wear.

Being officers of Einson-Freeman, which designs and manufactures every type and size of lithographed cardboard window and store display from light pulls, bottle toppers, stackers and calendars, to posters, floor stands, and complex constructions using light and motion, it is their business to know.

Mr. Leigh, who is chairman of the board for that company, stated in an article appearing in the April issue of *The National Lithographer*, "There are many different indications that window display is conceded by advertisers to have come of age and rates serious consideration in planning comprehensive advertising programs. One of these signs is the increasing ties between the window display and the art and copy in national magazines."

As one illustration of such a comprehensive advertising program, Stephen F. Whitman & Sons, Inc., have just introduced their personality series of advertisements. One, featuring Bob Hope, appeared in The *Saturday Evening Post* and then was used on an easel card as a poster for window display. According to Ward Wheelock Company of Philadelphia, advertising agents for Whitman, there are to be a number more of the advertisements in the Post many of which will also be tied in with posters for display use.

Other candy concerns, too, use the easel type poster display card. To mention one, Lovell and Covel, whose displays are done by the Forbes Lithographing Company at Boston.

Schrafft's used a plus promotion piece, created and produced in eight colors by Einson-Freeman, on which an open box of Schrafft chocolates was vividly portrayed and having side cards picturing gift wrapped items.

Many advertisers use point-of-purchase advertising as a primary medium. For instance, Hershey is reported to sell "half of America's chocolate" through it alone.

Continuing with that article in the *National Lithographer*, Mr. Leigh said, "The rise of point-of-sale display is not confined to store windows. Inside the store, in most every line of business, there is growing competition for

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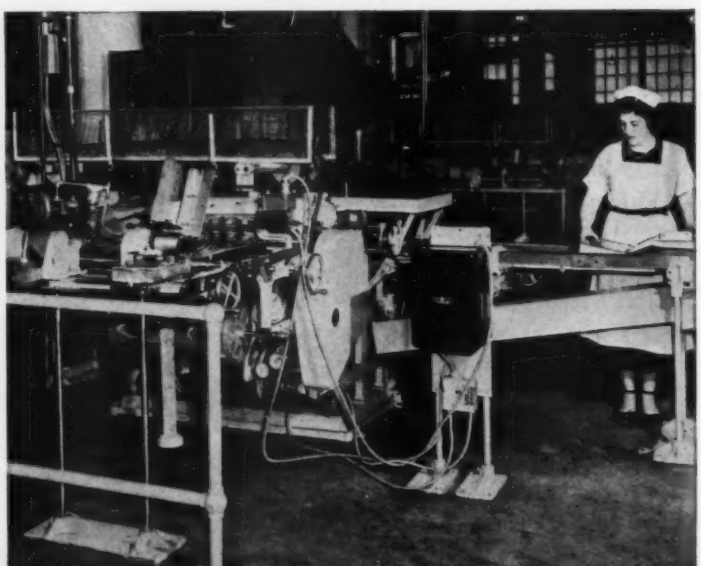

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space on counter and floor. Jumble baskets and compact counter merchandisers that catch the eye and display the advertised product in an enticing 'help yourself' manner, are popular with retailers who recognize the extra profits in 'pick-up' sales. Similarly, floor stands that double as promotion pieces and 'silent salesmen' find favor with dealers who are always alert to step up profitable 'impulse buying'."

Nestle's are one of the many candy companies keenly aware of the 'pick up' sales volume to be obtained from strategically placed merchandising displays. They use the jumble basket floor stands with their chocolate bars, as well as their other chocolate products and Toll House cookies. One of the stands, designed especially for bars, was 18 inches wide, 14 inches deep, and 44 inches high, with two shelves for display of the large "economy size" Nestle's bars, or if desired, for the 5c bar. The stand was designed with eye-level spots left for the dealer to write-in the prices of the displayed goods. The lower shelf of the stand was made to hold the stock on a flat plane, while the upper shelf was arranged to display bars on an angle. These by Einson-Freeman.

So successful have such display stands proved in selling the Nestle's products, that the company is bringing out new designs incorporating the improvements developed from experience with their use in retail stores.

Curtiss is another company making use of floor stands. Theirs designed by River Raisin Paper Company of Monroe, Michigan, and constructed of heavy corrugated board.

Life Savers and Necco are a couple of others.

Incidentally, packaging is a definite part of the display. A notable example is a circus jumble basket recently introduced by Necco. A large size basket held specially wrapped packages of the Necco wafers, economy size with several packs wrapped together. A smaller basket, with design detail in duplication of the large one, held single unit packs. This was a Forbes creation.

Speaking of packaging as part of the display, another and even newer angle is that of using the shipping carton as a display base.

For a promotion of the Finlandia Crown Marmalaads recently the display was arranged as a pyramid on top the shipping carton, and the pieces of display made to fit into that carton for further shipment or storage.

In other designs, the flaps turn under to reveal an attractively colored display unit inside the carton.

It is interesting to note that about ten years ago, candy displays in drugstores stressed quality and appeal as gift items. Today the stress is laid on the 'reasons why' candy is a desirable purchase, plus comparatively subtle type mass display appeal.

Returning to the carton phase of display, Einson-Freeman not only design displays which are easily assembled, but the shipping cartons are labeled for identification so the retailer will know before he opens the shipment just what is inside. Both are time and labor saving devices for the busy retailer, and as such are appreciated. Also the dealer appreciates being consulted on displays, and having the displays tested before they are put in general use.

Technicrome, one of the newer types of display, using a backlighted shadow box to create a three dimensional effect, was pretested or as Mr. Engel, president of Einson-Freeman expressed it, "Before it was exposed to advertisers, experimental models were given store window tryouts. Public interest was phenomenal. Crowds lingered by night as well as by day."

Again quoting Mr. Leigh: "Light and motion are figuring more in window displays. Not merely to appease the dealer but because the advertiser wants to inject every possible selling 'hook' in his advertising at the point-of-sale. One noteworthy development is lithographing full color reproductions on transparent vinyl plastic, in backlighted shadow boxes.

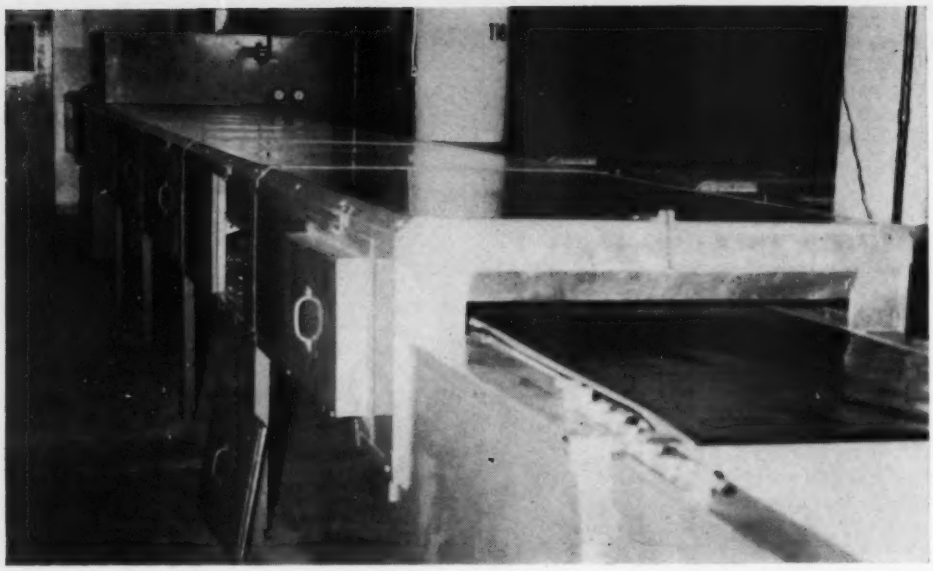
"Plug-in motion displays using 110 volt A-C are on the increase, but the more startling surge in the use of motion is in the battery-operated type. The dealer likes the battery motion displays because they require little or no attention, and virtually no expense other than occasional replacement of the small battery—an ordinary flash light battery with a lifetime of two to four weeks, on round the clock operation."

The motion part of Einson-Freeman's business has doubled within the last year, in other words a step-up from 10 percent to 20 percent of their business on those displays aided by the plugless motor operated by the 10c flashlight battery. Einson-Freeman says that while motion may cost from two to three times as much as the still display, spot checks prove it to be six times as effective. Tests have shown that motion displays 'stop' six times as many watchers as do the still type.

As for the lighted displays, dealers find them valuable as 'night lights' giving both day and night promotion to the product, but also adding night time protection to the store.

While so far candy companies have not gone in for the motion or light displays, there are several designs which might easily be adapted to their use. For one example is a motion display created by Einson-Freeman for Anahist, showing a girl with her head moving. With a few simple changes in that design, the girl might well be taking a bite of candy!

But regardless of what sort of point-of-purchase feature is selected, such displays are the silent salesmen standing guard at the retailer's shop to clinch sales with the customers.



My Personal Opinions On Cooling Tunnels

by John Sheffman

DURING RECENT years, I have been reading and listening to various experts on chocolate cooling tunnels and other methods of cooling enrobed or coated candies. Inasmuch as I have been in the business over 50 years and saw chocolate cooling in iceboxes as well as by the latest modern tunnels, I find that there is still improvement to be made on some of the best chocolate cooling tunnels existing. Therefore, I thought I would like to have my opinion join those of others.

During my years in the candy industry, abroad and in this country, I saw a good many home-made tunnels, experts rebuilding tunnels, and various manufacturers building tunnels incorporating different ideas they thought would do the best job.

I remember the first cooling tunnels built by candy manufacturers themselves or by some of their mechanics who had an idea that they could do a good job. When the chocolates were picked up from the glazed belt, fingerprints of the packer were on them.

Then there was the still-cooling method in the tunnels where they had a lot of coils above the glazed belt. If the coils were not thoroughly frosted, the candies came out with a nice dew on them. It didn't take long before they had all kinds of colors, and the bloom showed before the chocolates were packed in the box for assortment. When they put the brush to work to try to bring out the shine again, the chocolate looked good for shipment. What happened after that, the manufacturer did not care as at that time they did not take back any imperfect candies.

The Benz Tunnel was the first near-practical tunnel developed, but the trouble with it was that when the weather was a little damp, the bottom of the tunnel sweated and the candy came out dull—even with the air counter-flow which they used over the top of the tunnel. By the way, the Benz Tunnel was cooled with water all through the bottom and the glazed belt was pulled through without a carrying belt. Therefore there was a good heat exchange.

Then the late Mr. Rasmussen and Mr. Lowell, now a consulting engineer, developed a tunnel which was divided in the center with sheet metal. They also devised a method of using a single-ply canvas belt to carry the glazed belt through the tunnel. The tunnel was built wide enough so that part of the partition was not covered by belt. The exposed partition in between the tunnel also cooled the upper section. This kept the glazed belt cool and the air was returned from the delivery end to

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the cooling unit. The cooling unit is usually placed 10 to 12 feet from the feed end of the tunnel. The return air hits the candy when it is about 16 to 18 feet in the tunnel. From there on, the air is naturally cooler and cooler until the discharge end, because at this point the air comes up from the lower section.

This method has proved to be one of the best for cooling chocolate-covered candies from the enrober.

There also are tunnels on which the glazed belt is carried through with a four-ply canvas belt and in no way can the air cool any part of the glazed belt. The glazed belt is warm when it receives the candy.

There also are tunnels which are constructed with a metal carrying belt to carry the glazed belt through the tunnel, but in these tunnels about 75% of the air never reaches the discharge end where it is supposed to come back over the candy. Most of the air leaks through the sides of the carrying chain and between the metal sections.

Everybody blames the tunnel for shelf life, improper drying, and bloom on the chocolate.

The main responsibility for bloom on chocolate is improper cooling of the chocolate, regardless of length of time.

In the 20th Century, to obtain a good shelf life, one-half hour to two hours should not be required to cool chocolate-covered goods, nor should a whole room be conditioned. This should be accomplished in from 5 to 10 minutes, according to the amount of chocolate used on the centers and the size of the piece. There is an optimum time to cool chocolates and do a first-rate job. Fast cooling is here to stay and is daily proving itself in plants all over the country.

The proper procedure for cooling candy would be for the air to be inserted in the lower half of the tunnel, and no leakage should come through the entire tunnel until the air reaches the discharge end. Then the air should be tempered to the correct temperature so that it does not exceed 50° F. nor less than 45° F. This air should return over the candy in a turbulent flow so that every square inch within the tunnel is in contact with moving air.

Chocolate-coated candy under such a procedure will be thoroughly cooled, as most of the heat exchange is done through the bottom. The glazed belt at the enrober end should not exceed 40° F. so that when the enrobed candy lands on the belt, it will not have a fin, and heat exchange will take effect immediately. By the time it reaches the end of the tunnel, the temperature within the candy will be so near to that of the chocolate covering, it will not effect any change in the chocolate.

The most important thing of all is to see that the room where the chocolate is packed, or where it comes out of the tunnel, is not too cold or too humid. If the room has high relative humidity, the chocolate will get wet and it will affect shelf life.

With properly tempered chocolate and a scientifically constructed tunnel, the shelf life of the enrobed candies is superior even to that of hand-dipped chocolates. The candy will not have to be brushed, but will have a natural lustre. This is possible when all stages are properly controlled by instruments, not relying on the human element.

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candy making for the beginner:

Lesson VII (Cont'd)

by ALFRED E. LEIGHTON
Consulting Food Chemist & Candy Technologist

PRACTICAL EXERCISE IN MARSHMALLOW MAKING

ASSEMBLE equipment as in earlier practical exercises—include one large bowl, both parts of the double boiler, one cake pan about 8½" square by 1½" deep, double acting egg beater, or better an electric mixer if available, and one thin sharp knife.

1. Prepare a mixture of equal parts of corn starch and confectioner's sugar, weighing out about ½ lb. of each item. Mix them completely in a suitable bowl or pan, using either the wooden spoon to turn the ingredients over and over to mix or the egg beater, which can also be used for mixing powders.

2. Grease the bottom and sides of the cake pan lightly, and dust completely each surface with the starch-sugar mixture. Grease and dust the cookie sheet in the same manner. Put on one side until each is needed.

3. Weigh out one quarter ounce of unflavored gelatine powder (super market item). Place it in the top part of the double boiler and pour a *scant* (a little less than) three fluid ounces of cold water over it. Leave it on one side to soak for one half hour, and soften.

4. When the gelatine is soft, warm and dissolve it by placing the vessel with its contents in some hot water contained in the bottom boiler. Stir the gelatine mix until all particles are completely dissolved. Heat up the lower boiler if necessary to bring about complete solution.

5. Weigh out 4 ounces of granulated sugar and pour it into the gelatine solution. Stir until all the sugar is dissolved.

6. Take the tare of the mixing bowl, and weigh 8 ounces of corn syrup (Karo—Red label) into it.

7. Pour the sugar-gelatine solution over the corn syrup, add ½ teaspoonful vanilla flavor—mix and blend.

8. Start beating the mixture with the egg beater at fastest possible speed (the electric mixer with a wire beater does a better job and is less tiresome). Continue beating until the mixture becomes thick and of marshmallow consistency, which completes the preparation phase.

9. Pour the finished marshmallow into the greased and sugar-starch-dusted cake pan, and spread it evenly over the surface. Put it aside to set for about 4 hours. Scatter some sugar-starch powder over the surface.

10. Loosen the edge of the marshmallow from the pan sides by running the knife blade between the slab and the sides of the pan. Invert the pan with its loosened slab, over the greased cookie sheet—the slab should drop out onto the cookie sheet.

11. Moisten the knife in cold water, and cut the marshmallow into one inch squares by pressing the knife into the mass—do not draw the knife across the surface—it is easier and cleaner to cut marshmallow by the pressure on the knife and taking advantage of the keeness of the blade to do the cutting. Roll the squares of marshmallow in sugar-starch powder and cover all surfaces.

Coffee Marshmallow as a pleasing variation from the vanilla flavored item can be made in the same way, using the same ingredients and proportions as in the vanilla item, but adding enough instant coffee powder (the equivalent of two cups of the beverage) to the sugar-gelatine solution. The use of dry coffee powder instead of the beverage itself, avoids the excessive use of water in the formula, but provides an equal flavor value. The rest of the process is the same as in the making of the vanilla item.

Chocolate Marshmallow can also be made from the vanilla formula, by adding ¾ ounce of the cocoa powder, and 1/12 ounce (about ½ teaspoonful) of the fine salt to the mixture, when the beating is about three quarters finished. The additions are made gradually, and beating continued until the mass reaches its proper thickness and body. Finishing is then completed as described under vanilla marshmallow.

The MANUFACTURING CONFECTIONER *publishes here the seventh in a series of 12 monthly articles on candy making for the beginner. The publisher of the magazine feels these articles will fill a gap existing in the confectionery world caused by the prevalence of departmentalization in manufacturing operations. This has discouraged the all around candy maker to the point where as a craftsman—he is a fast vanishing entity. The series is designed exclusively for the beginner to better his understanding of the function of ingredients and the "why's" of candy making. The course has been prepared by Alfred Leighton, consulting food chemist and candy technologist. He is a well-known figure in the confectionery field.*

Lesson VIII

NOUGATS AND THEIR MANUFACTURE

Nougat and marshmallow have much in common. They are both old confections, they are both made from the same basic ingredients; namely, sugar, corn syrup, albumen, and or gelatine, nuts, fruits, and vegetable fats. They are both examples of aerated confections. They are delightful to eat when made properly. They can be

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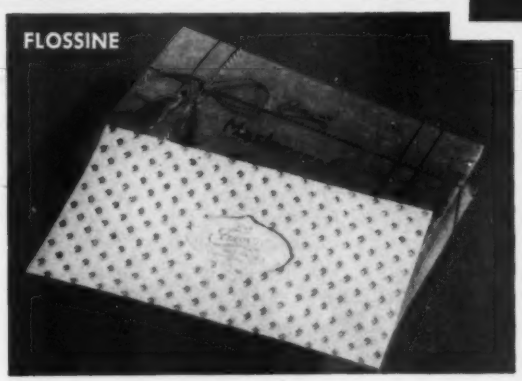

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short in texture, or long (chewey) as desired. The countries bordering on the Mediterranean Sea, probably were the first to make nougat; for in those countries an abundance of nuts and honey was available.

Earliest nougat confections were made with honey which was beaten into egg whites, together with almonds and other available nuts. The mass was allowed to sundry before consumption.

In these days, changes of formulation have taken place; honey with its distinctive and attractive flavor, is often displaced by sugar-corn syrup-invert mixtures. Nuts and fruit pieces are sometimes omitted entirely. The ancient simple art has progressed from a one step operation to a two step procedure. Thus, part one consists of a low cooked batch or honey or invert sugar and egg albumen, and part two of sugar entirely, or with admixture of some corn syrup—this is the high cooked batch. The two batches are combined to make the modern nougat. The low-cooked item is virtually a marshmallow—it contains albumen and has been whipped at a temperature below the coagulating point of egg albumen, and allowed to stiffen under the prolonged influence of heat. The second part, the high-cooked item made of sugar and corn syrup, is more like hard candy than anything else, although the temperature of cooking is considerably lower than that of a real hard candy. The two parts once they are brought together and combined, make up the nougat as we know it today. Such a description although rather broad, provides the student with an understanding of what actually takes places when nougat is made under modern processes.

The Ingredients and Their Functions

The ingredients, as in marshmallow, are sugar, corn syrup, albumen, honey, vegetable fats; nuts and fruit pieces are used in some formulas and invert sugar sometimes substitutes for honey.

Sugar. Basic sweetener—provides grain in short textured confections, when present in correct ratio.

Corn Syrup. Sweetness modifier—necessary in nougats, which should not be excessively sweet—grain controller and doctor.

Egg Albumen. Aerating agent—sometimes mixed with vegetable albumens such as soya, for economy confections.

Honey. Flavoring agent, unique and delicate—at one time considered the indispensable ingredient. It is frequently displayed by invert sugar in modern formulas (not advantageously from the flavoring viewpoint). Honey also acts as a doctor in grain control—it is usually slightly acid in reaction and therefore capable of doing some sugar inversion on its own account, especially at high temperatures. Honey is Nature's own invert sugar, made by the honey-bee for the delight of mankind and to satisfy his craving for sweets. The flavor and aroma of honey vary with the country of origin, and the flowers growing in the areas of collection. Both flavor and aroma of honey are volatile (evaporate easily) and their advantages can be lost in careless cooking procedures.

Invert Sugar. Is a substitute for the higher priced honey. When used it is a sweetener, doctor, tenderizer, and moisture retaining agent. Invert sugar does not impart any distinctive flavor other than its own sweetness.

Nuts and Fruits. Provide distinction and quality to nougat, as well as good eating. Among the nuts, almonds because of their delicate flavor which blends in well with nougat are preferred, pistachios are more or less traditional—other nuts according to whim. Crystallized fruit pieces, such as cherry, pineapple, and fruit peels, give a lift and localized color to the confection when present.

Vegetable Fats. Low melting point fats like coconut oil, blend in well in the mixing process. They are added for their lubricating properties in cutting and eating. The presence of oils prevents adhesions to the knives when cutting, or to the consumer's dentures or teeth when the nougat is being eaten.

Albumens. Egg and vegetable are aerating agents. Egg albumen alone is used for the most part. Sometimes used in a mixture with vegetable albumen such as derived from the soya bean. Without them, or materials that have the property of foaming, and building up an air cell structure strong enough with the aid of heat to

SOME TYPICAL NOUGAT FORMULAS

Type	Honey, Nut, Fruit	Coconut Plain	Hard Nougat	Chocolate Coated	Nut Nougat
Sugar	9 lbs.	12½ lbs.	9¾ lbs.	10¾ lbs.	9¾ lbs.
Corn Syrup	7¾ lbs.	12½ lbs.	11½ lbs.	7½ lbs.	7¾ lbs.
Honey	2¾ lbs.			3 lbs.	
Egg Albumen	3 oz.	4 oz.		4 oz.	3½ oz.
Water	4¼ lbs.	4¾ lbs.	enough to moisten sugar	5¼ lbs.	enough to moisten and cover the sugar
Gelatine			8 oz. softened in water		
Coconut Oil				1¼ lbs.	1¼ lbs.
Almonds	4¼ lbs.			2½ lbs.	4¼ lbs.
Pistachios	1 lb.				¾ lbs.
Coconut		2¼ lbs. fine	3 ½ lbs.		
Glace Fruits	1¾ lbs.				
Flavor	⅛ oz. vanillin	⅛ oz. vanillin	⅛ oz. vanillin	⅛ oz. vanillin	⅛ oz. vanillin

support the syrup mixtures that are folded in on top of them, it would not be possible to make nougats as we know them today. Egg albumen is preferred by many because it can be whipped to varying degrees of stiffness, air cell size, and stability. It's property of coagulating and setting under the influence of heat, is regarded as one of its most important characteristics. Egg albumens can be overwhipped—the cell structure partially ruptured, when some degree of collapse follows, as a consequence. Vegetable albumens have been developed to a high degree of excellence by their makers. Generally they are unaffected by heat—that is, they do not coagulate and lock the air bubbles within their cells as the egg albumens do, neither do they collapse from over-whipping. They foam quickly, and are useful in a mixture with hen albumen, for cost-lowering in the making of economy items.

An examination of the formulas given, shows that the ratio of sugar to doctors such as corn syrup and honey, is approximately equal: 50-50 (on a solid basis). Where honey is one of the ingredients it's percentage will run to 12½ of the total dry weight of sweeteners. If standardized invert sugar is used to substitute for honey, it can do so approximately on a pound for pound basis, although the invert sugar is a trifle lower in solids than the honey it replaces as a rule. Egg Albumen is employed in from 1 to 1 1/4% of the total sweeteners (dry basis). Nuts and nut-fruit additions vary all the way up to 30% of the finished candy—an average of 16% is shown in some of the formulas given. Oil, in the form of coconut oil amounts to 5% or a little more or less on the weight of the finished candy. All nuts, including coconut in its various forms, contain appreciable quantities of natural oil, a part of which will escape, and be taken up by the candy, if the cellular structures of the nut are ruptured. So, with the accompanying figures as a guide, it becomes possible for the experimentally minded student to formulate an individual nougat confection successfully on his own account. Such experiments are interesting exercises and are good practice for the student who wishes to excell in his craft.

Production Methods

As mentioned earlier, production of nougats usually takes place in two stages. The first stage as the low cooked part, will be made up of the honey, and or invert sugar, and sometimes part of the corn syrup. It is cooked, and then cooled to a temperature low enough so that when added to egg albumen in the process of aeration, it will not cause an immediate coagulation. Honey and invert sugar, both of which are slightly acid in reaction, are nearly always confined to the low cooked stage. Were they to be included in the high cooked stage, honey flavor would be lost, some inversion of the sugar would occur, and some chewiness in the resultant candy would be developed.

The high cooked part will consist of all or most of the sugar, and some or none of the corn syrup. The greater the percentage of sugar in this part, the shorter the texture tends to become. The opposite effect or chewiness will be caused by the presence of corn syrup or other doctors, cooked with the sugar in this second part. In other words, whether a nougat will have a short or chewey texture, will depend upon the ratio of sugar to doctors, used in this high cooked part. When part two is mixed with part one—the temperature should have been brought down to 160 degrees Fahrenheit or lower, and before the highest peak of aeration in the whipped portion has been reached. In this way, the continued and prolonged action of the heat, while finishing aeration, will complete the coagulation of the albumen and capture the air within its cells. In suitably formulated mixtures, grain formation is assisted by the effect of heat over a period of holding time.

Processing Procedures

As an example let us consider the formula for chocolate coated nougat. The albumen solution is prepared by dissolving the powder in four parts of water. The honey is cooked to 238 degrees Fahr., placed in the beater, allowed to cool to 160 degrees, and the beating started. The albumen solution is next added in a stream, and the mass beaten until light and fluffy. This represents stage 1. In the meantime, the sugar is dissolved in the balance of the water the formula calls for, the corn syrup is added, and the mixture cooked to 260 degrees. This is stage 2. The heat is turned off, and the cooked mass added slowly to the whip of honey and egg albumen. The beating is continued until the whole becomes stiff. The shortness of the batch can be checked by drawing a knife through it—and noting the break in the texture—a chewy texture will be shown by the stringy stretchy pull on the blade. Flavor, color if any, nuts and fruit pieces, are then added and mixed in well until completely and evenly distributed. The nuts and fruit pieces should have been warmed first before they are added to the confection. Cold nuts and fruits will induce a deposit of moisture on themselves as condensation, (which causes weeping in the candy) if not prevented in the manner described. At this stage, oil melted at the lowest temperature necessary to obtain clarity, is slowly added and mixed in until absorbed. The finished nougat is then poured onto an oiled, water-cooled slab, allowed to cool and set preparatory to coating.

Taking the formula for honey nut and fruit confection, the procedure will be to dissolve the albumen in six parts of water and whip it to a light froth. The sugar and corn syrup are cooked together to 266 degrees Fahr., the honey added and the whole mass just brought back to the boil again. Heat is shut off, and the cooked mass transferred to a beater in motion, which assists the mixture to cool off somewhat. The whipped frothy albumen is then added gradually to the cooked syrups in the beater, and the beating continued until the mass becomes light and firm. Warmed nuts and fruit pieces, together with flavor and color if any, are then added and stirred in until the mixing is complete, and the nuts and other additions uniformly distributed. The confection is then poured onto a cooling slab which has been lined with edible wafer paper, the pour is levelled off to the height of the bars, the surface covered with wafer paper, and the candy allowed to cool. When cool it may be slabbed, cut, and wrapped.

The procedure as outlined above differs from the first method by cooking the sugar and corn syrup to a higher temperature by a few degrees, then adding the cold honey and bringing the temperature back to the boil. This part of the heating is not prolonged more than necessary. The whipped albumen is added in a slow stream,

first impressions...

lasting appearance...

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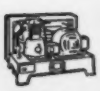

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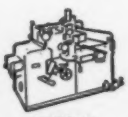
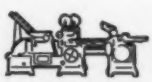


MORPAC PAPER PACKAGING MACHINES



MORPAC BUTTER & OLEO CARTONING MACHINES

GLASS FORMING MACHINES

whereas in the first method the cooked sugar-corn syrup part is added to the albumen-honey mixture which has been cooled to 160 degrees before whipping. As the hotter mixture of sugar and corn syrup is added, the temperature of albumen-honey part is raised to the coagulating point gradually. The continued beating and the prolonged action of the heat finish the effect.

Some Things Worth Remembering

The softness of the nougat can be controlled by either cooking higher, or decreasing the weight of water used for dissolving the albumen.

Low melting point oils blend in better than high melting point oils in nougat making.

When making chocolate nougats, make a blend of oil, cocoa, or chocolate liquor into a uniform mass, before adding such ingredients to the confection in the beater. This avoids over-beating and volume losses.

Nougats tend to lose volume on cooling.

Large amounts of egg in the formulation call for lowered cooking temperatures.

Short nougats should be leveled to their final height when being poured. This avoids subsequent sizing which crushes grain structure and makes the material softer. If necessary to size at all, give the candy sufficient time to become quite firm before reduction is attempted.

To be continued: Next installment will deal with practical exercise in nougat making, and deal with pectin jellies and their manufacture.

Looking for more Sales?
Here is the answer to additional business. Package your candy and nuts in our attention-compelling transparent plastic boxes.
Countless manufacturers and distributors of confectionery have "found" more sales by attracting purchasers at the actual "point of sale" . . . why don't YOU?
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THIS is the fiftieth year of Service to Heekin customers in expert color lithography and metal packaging . . . in contributions, sales-wise, to the confection industry. The Heekin organization, old in experience— young in ideas, is at your service.
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DIRECTORY OF EXHIBITORS

Confectionery Industries Exposition During N.C.A. Convention—June 3-7

at the Stevens Hotel, Chicago, Ill.

Note: The exhibitors listed in boldface type have further described their products in the Advertising Pages of THE MANUFACTURING CONFECTIONER.

AMERICAN MAIZE-PRODUCTS COMPANY, 100 East 42nd St., N. Y. 17, N. Y. Booth No. 509. Corn syrup unmixed, corn syrup solids, thin boiling starches, moulding starches, W-13 Stabilizer. In attendance: Theodore Sander, Jr., James B. Melick, Charles H. Sanford, Robert L. Lloyd, J. B. Brouwer, J. J. Binder, C. C. Davis, J. J. Fitzmorris, J. A. Murray, E. R. Sterbenc, T. J. Dodd, W. E. Carman, W. H. Henderson.

AMERICAN SUGAR REFINING COMPANY, 120 Wall St., N. Y. 5, N. Y. Booth No. 406. Domino pure cane sugars, sugar syrups. In attendance: C. H. White, Jr., E. D. Hughes, C. B. Castle, G. P. Engel, E. W. Meeker, W. E. Beard, representing Franklin Sugar Refinery, Norman Crock, representing McCahan Sugar Refinery.

AMSCO PACKAGING MACHINERY CO., 31-31 48th Ave., Long Island City, N. Y. Booth No. 310.

T. H. ANGERMEIER & CO., 245 Seventh Ave., New York City, N. Y. Booth No. 309.

ANHEUSER-BUSCH, INC., 2900 So. Broadway, St. Louis 18, Mo. Booth No. 28.

ATLANTIC GELATIN DIV., General Foods Corp., Hill St., Woburn, Mass. Booth No. 41.

FRANKLIN BAKER DIVISION OF GENERAL FOODS CORPORATION, 15th & Bloomfield Sts., Hoboken, N. J. Booth No. 305. Coconut products other than oil. In attendance: Harry P. Haldt, Graham T. Brown, George W. McCullum, Wesley L. Bonney, John I. MacDonald, David H. Macaulay, Arthur E. Olson, Norman Kleinpeter, Alan Post, Milton E. Barker, A. Frank Lilien, Max Ruehrmund.

WALTER BAKER CHOCOLATE & COCOA DIV. OF GENERAL FOODS CORP., Hoboken, N. J. Booth No. 506.

BLANKE-BAER EXTRACT & PRESERVING CO., 3224 So. Kingshighway Blvd., St. Louis 9, Mo. Booth No. 513. Fruits and flavors for retail soda fountains. In attendance: Dr. S. H. Baer, Miller Winston, A. H. Knese, C. R. Klofkorn, Paul A. Semrad, H. L. Johnson.

BRAMLEY MACHINERY CORPORATION, 880 River Road, Edgewater, N. J., Booth No. 16.

BRAZIL NUT ASSOCIATION, 100 Hudson St., New York 13, N. Y. Booth No. 203.

BREWERS YEAST COUNCIL, INC., 314 N. Broadway, St. Louis 2, Mo. Booth No. 604. Represents producers of Brewers Dried Yeast. Will show how and why to use Brewers Dried Yeast in candy. In attendance: J. M. Leinen, Miss Elsie Singruen.

BURKE PRODUCTS CO., 317 W. Hubbard St., Chicago, Ill. Booth No. 38.

BURRELL BELTING CO. 7501 N. St. Louis Ave., Skokie, Ill. Booth No. 18. Plasticoat glazed cooling tunnel belting and plaques, double texture white glazed cooling tunnel belting, single texture white glazed cooling tunnel belting and plaques, crackless glazed cooling tunnel belting, feed-table endless belts (treated and untreated), turntable belts endless (treated and untreated), bottomer table endless belts (treated and untreated), peanut feeder endless belts (treated and untreated), batch roller belts re-inforced edge patent No. 2087212, caramel cutter belts endless with metal lace, caramel cutter boards (treated), fan and drum woven endless belts, cocoa press pads, splicing cement, and splicing tape. In attendance: W. H. Jenks, Howard G. Aylesworth, Earl F. Mayer, James A. Linn, John M. Moyer, Carroll Aylesworth, C. B. Turner.

EXPOSITION HOURS

Monday, June 4
2:00 p.m. to 8:00 p.m.

Tuesday, June 5
12:00 Noon to 8:00 p.m.

Wednesday, June 6
12:00 Noon to 8:00 p.m.

Thursday, June 7
12:00 Noon to 5:00 p.m.

CALIFORNIA ALMOND GROWERS EXCHANGE, P.O. Box 1768, Sacramento, Calif. Booth No. 507. California Shelled Almonds. In attendance: Dale Morrison, Jack Axer, Charles H. Muller, Robert Clement.

CALIFORNIA FRUIT GROWERS EXCHANGE, 616 East Grove St., Ontario, Calif. Booth No. 306. Orange Oil, Lemon Oil, Citrus Pectin, Citric Acid. In attendance: D. R. Thompson, T. F. Baker, L. C. Gallagher, E. L. Rhoads, W. L. Zogbaum, O. E. Olson, J. A. Finley, D. F. McMillen, E. S. Chrapla, J. P. Haman.

CARLE & MONTANARI S/A, Via Neera 39, Milan, Italy. Booths No. 3 and 4. Chocolate and confectionery equipment. In attendance: Giovanni Carle, Caesar A. Mascherin.

FRED S. CARVER, INC., 345 Hudson St., New York 14, N. Y. Booths 6 and 7. Carver Cocoa presses and "The Carver Laboratory". In attendance: Fred S. Carver, William S. Carver, Robert W. Carver.

CHOCOLATE SPRAYING CO., INC., 2035-39 W. Grand Ave., Chicago, Ill. Booth No. 20. Continuous Die pop machine, plastic machine, sugar sanding machine, revolving pans, chocolate decorator. In attendance: L. Latini, J. Latini, E. Latini, J. Sheffman, G. Holmberg, E. Sheffman.

CLINTON FOODS INC., Clinton, Iowa. Booth 504. Corn products. In attendance: Carl Whiteman, H. A. Bendixen, E. D. Cottral, M. H. Eddington, A. C. Junge, E. C. Alderson, L. D. Buhrer, Lloyd Smith, W. F. Jackson, R. C. Rau.

CONFECTION MACHINE SALES CO., 37 W. Van Buren St., Chicago 5, Ill. Booth 25. Fondant machines. In attendance: C. Bonheimer, Ed Zeisler, Hugo Eisenmenger, Paul Bonheimer.

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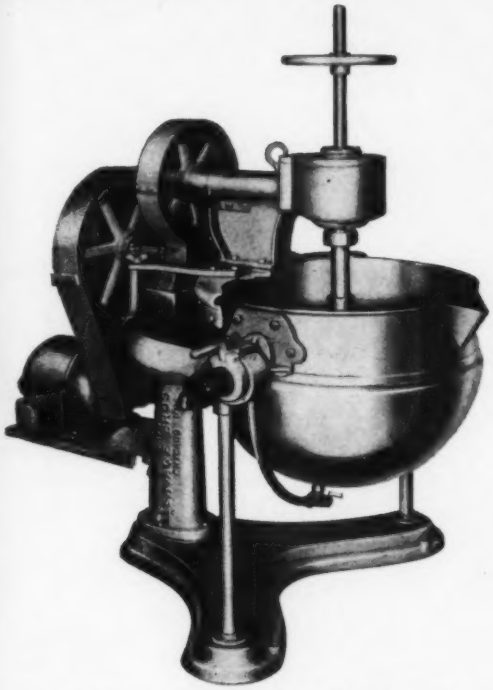

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35 gal. with copper kettle
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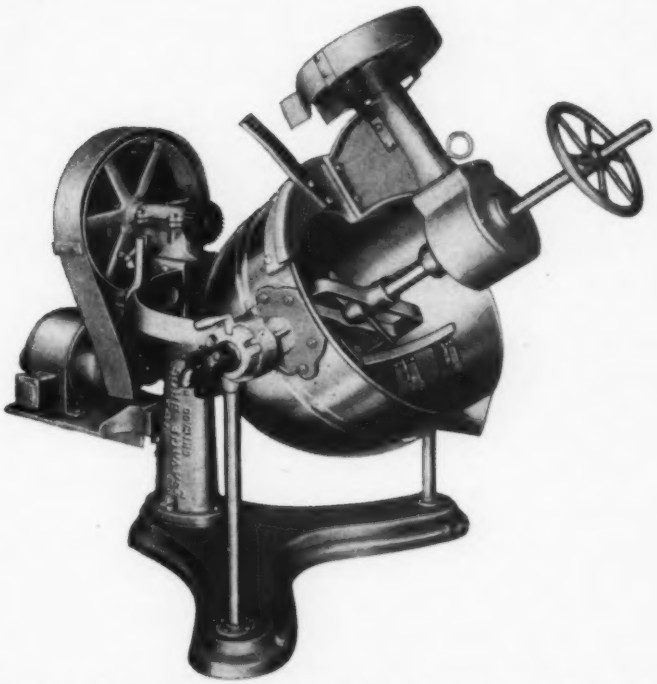

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CORN PRODUCTS SALES COMPANY, 17 Battery Place, New York 4, N. Y. Booth No. 403. Globe Brand corn syrup unmixed, Cerelose Brand Dextrose, confectioners' starches. In attendance: W. H. Gamble, E. W. Schmitt, J. M. Krno, F. E. Von Bargen, C. R. Waters, J. E. Walz, R. R. Adam, J. M. Coe, A. G. Peterson, G. Olsen, A. Anderson.

CRYSTAL TUBE CORPORATION, 538 So. Wells St., Chicago 7, Ill. Booth No. 208. Converted transparent and flexible packaging materials, such as cellophane, polythene, pliofilm and laminated barriers. In attendance: Harold Goldring, John Farrell, Wm. Holly, Alan Ross, Lewis Egeler, Thos. Mulligan, Herbert Berry, Les Ordman, Kenneth Dvorak.

CURRIE MANUFACTURING COMPANY, 1837 W. Grand Ave., Chicago, Ill. Booth No. 410. Stackers, Feeders, Candy Cleaner, Casters, Dollies. In attendance: H. A. Currie, D. M. Currie, H. W. Currie, D. W. Currie, F. Conway, M. Cain, E. V. Zievers, E. V. Currie.

THE DOBECKMUN CO., 3301 Monroe Ave., Cleveland 13, Ohio. Booth No. 505.

DOUGHBOY INDUSTRIES, INC., New Richmond, Wis. Booth No. 510.

E. I. DU PONT DE NEMOURS & CO., INC., Film Department, Wilmington, Del. Booth No. 308.

DURKEE FAMOUS FOODS, Div. of The Glidden Co., Chicago, Ill., Elmhurst L. I., N. Y., Berkeley, Calif., Louisville, Ky. Booth No. 21. Fats and Oils for the Confectioner, dessiccated sweetened "Stayfresh" and Sweetened Toasted Cocoanut. In attendance: E. G. Kaupert, Jim Hammond, George Armstrong, H. S. Davis, C. S. Meyer, W. A. Wymer, F. D. Machon, H. E. Schifter, C. W. Lantz, G. Norman Bruce, D. E. Kinder, W. M. Cochran.

FOOD MATERIALS CORPORATION, 2521 W. 48th St., Chicago, Ill. Booth 27. Flavoring extracts. In attendance: E. E. Feight, P. T. Storr, E. N. Heinz, Jr., J. K. Breen, H. A. Ackermann, Richard Doherty, E. W. Jeffress, Robert Koch.

HARRY L. FRIEND CO., 200 Old Colony Rd., So. Boston, Mass. Booth No. 206.

R. E. FUNSTEN COMPANY, 1515 Delmar Blvd., St. Louis 3, Mo. Booth No. 22. Shelled Pecans, Shelled Eastern Black Walnuts. In attendance: P. A. Noble, H. L. King, Kyle J. Shaw, L. T. Schwieder, J. R. Hanna.

G. D. SOCIETA ANONIMA, Via San Felice 20, Bologna, Italy. Booth No. 107. Caramel and sweets wrapping machines. In attendance: C. A. Mascherin, U. S. Representative.

ROBERT GAIR CO., 155 East 44th St., New York 17, N. Y.

GENERAL WAXED PAPER CO., 1630 So. Canal St., Chicago, Ill. Booth No. 11.

J. W. GREER COMPANY, 119 Windsor St., Cambridge 39, Mass. Booths No. 209-210. Chocolate coaters, cooling tunnels, multi-tier cooling conveyors, depositors, chocolate melting and tempering kettles, tempering units, solid chocolate bar moulding machines. In attendance: Fred W. Greer, Don S. Greer, Charles R. Becker, Rod Grace, George S. Dolber, Melvyn Mickevicz.

GMB MACHINERY MFG. CO., INC., 84 Madison Ave., Jersey City, N. J. Booth No. 104. New caramel cutting machine—no belt. New midget size for small operator. In attendance: George Binon.

GROEN MFG. CO., 4535 Armitage Ave., Chicago 39, Illinois. Booth No. 503. Stainless steel steam jacketed kettles, revolving pans, kettles with agitators, vacuum pans, special equipment. In attendance: Fred H. Groen, Fred H. Groen, Jr., Elmer Barth, Jack Meade.

GUNTHER PRODUCTS CO., Galesburg, Ill., Booth No. 40.

IRA L. HENRY CO., Watertown, Wis. Booth No. 15.

HAUG & CO., 99 Wall St., New York, N. Y. Booth No. 12. Neverfail Invertose, Permaslip. In attendance: George Haug, Irving O. Bush.

HAYSSEN MANUFACTURING COMPANY, Sheboygan, Wis. Booth 202. Automatic wrapping machines. In attendance: Wm. A. Hayssen, F. Horwitz, J. C. Johnston, Geo. Laing.

HOOTON CHOCOLATE COMPANY, 339/361 No. Fifth St., Newark 7, N. J. Booth No. 8. Chocolate coating, chocolate liquor, cocoa powder. In attendance: G. B. Dodd, E. J. Teal, L. S. Fiscus, A. G. Enman, F. J. Wolf, Jr., Fritz Baehr, A. H. Hirt, C. M. Schorr.

THE HUBINGER CO., 601 Main St., Keokuk, Iowa. Booth No. 501. OK Corn Syrup Unmixed, OK Special starches, OK Dri-Sweet (dried corn syrup). In attendance: R. S. Fisher, R. L. Krueger, A. M. Robinson, G. W. Hines, J. T. Flahiff, H. S. Brightman, C. H. Lawrence, G. H. Hollingworth, D. L. Tiger, J. T. Wallenbrock, Roy Underwood.

FANCY CONTAINER DIV., I. D. COMPANY, 150 Spring St., New York 12, N. Y. Booth No. 205.

JIFFY MANUFACTURING COMPANY, 360 Florence Ave., Hillside, New Jersey. Booth 407. Jiffy Insulated bags, Jiffy insulated boxes. In attendance: Jack Macdonald, Gene McGuire.

A. KLEIN & COMPANY, INC. 113 W. 17th St., New York 11, N. Y. Booth No. 26.

H. KOHNSTAMM & CO., INC., 87 Park Place, New York 7, N. Y. Booth No. 207.

J. L. LEHMANN COMPANY, INC., 550 New York Ave., Lyndhurst, N. J. Booth No. 24. 3 & 5 chocolate refiners with the new Sight-O-Matic control, cocoa nib and liquior reduction mills, mixers, tempering machines, storage and tempering kettles, conching equipment, emulsifiers, almond blanchers, "dutching" tanks, special machinery. In attendance: E. E. Mueser, C. B. Hoffman, C. Dittman.

LYNCH CORP., Packaging Machine Div., P. O. Box 1025 Toledo 1, Ohio, Booth No. 408. Wrap-O-Matic wrapping machines. In attendance: M. V. Girkins, W. A. Doepel, F. G. Lenhart, M. J. Czarniecki, R. N. Craven, Oscar Sandberg.

THE MANUFACTURING CONFECTIONER, 9 So. Clinton St., Chicago. Booth No. 30. Exhibiting Manufacturing Confectioner, Candy Merchandising, technical books. In attendance: Mrs. P. W. Allured, James Allured, Stanley Allured, W. C. Childs, J. Mercier.

MERRILL LYNCH, PIERCE, FENNER & BEANE, 70 Pine St., N. Y., N. Y. Booth No. 10. Commodity brokers. In attendance: Malcolm J. Forbes, R. R. Weihe, Clark Gutru.

MILLER WRAPPING AND SEALING MACHINE CO., 18 So. Clinton St., Chicago 6, Ill. Booth 310. Packaging machinery, including Corley-Miller Model MPUS heavy duty wrapping machine; Simplex-O-Matic automatic bag make-filling-sealing machine. In attendance: M. H. Corley, J. P. Corley, R. H. Freeman, P. G. Freeman, F. J. Faletti, J. M. Hagberg, F. J. Kocarek, C. W. Montgomery. Ed Messmer, John Sylvester, representing Amsco Packaging Machinery, Inc., Rene Gaubert, representing Simplex Packaging Machinery, Inc.

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FOOD COLORING TECHNIQUE

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PLASTIC FOOD COLORS
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(Manufactured under Patent No. 1388174)

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Each 2 oz. "cake" is scored, separating it into 16 "squares." These "squares" break off readily, enabling accurate control of the color used in the batch.

ELIMINATES ALL GUESSWORK

The scored "squares" make it very easy to accurately figure the quantity required for any desired result. One "square" gives a desirable shade to a 35-lb. batch.

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The use of Plastic Food Colors eliminates muss and dusting in preparing Pastes for use in hard candies. All waste of material and time is eliminated and everything, even the hands, are kept clean. It makes it easy to use the exact quantity required for any given shade.

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Get Kanatrol's rich, distinctive flavor and character that builds steady, repeat business. Discover how high temperatures don't dissipate Kanatrol flavor. See how you save, too . . . just one ounce flavors 100 lbs. of confectionery!

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MILPRINT, INC., 431 W. Florida St., Milwaukee, Wis. Booth No. 307. Candy packaging cellophane, glassine wraps, bags, litho wraps, cartons, etc. In attendance: Wm. Heller, Sr., Lester Zimmerman, Roy Hanson, James Heller, Shy Rosen, Roland Ewens, Paul Hultkrans, Bert Heffer, Jack Manion, John Kettlewell, Roy Lundberg, Jim Hopkins, Bob Billeb.

MINNEAPOLIS-HONEYWELL REGULATOR CO., Brown Instrument Div., Wayne and Windrim Aves., Philadelphia 44, Pa. Booth 44. Recorders, indicators and controls for confectionery manufacturing processes. In attendance: J. Meyer, R. W. Weingartner.

MURNAME PAPER COMPANY, 1510 No. Kostner Ave., Chicago 51, Ill. Booth 29 "Lint-Free" dividers, partitions, boats, trays and base cards. In attendance: J. H. Murname, J. Hobie Murname, Frank J. Murname, F. H. Keegan, L. E. Holloway, G. D. Kells.

NATIONAL EQUIPMENT CORP., 153-157 Crosbey St., New York 12, N. Y. Booths 32-33-34-35. Mogul, Enrober, Cooker, Cherry Dropper, Hydro Seal Pump Bar., Fondant Unit, Multiple-Tiers, Cooling tunnels, tempering units. In attendance: W. H. Kopp, Joseph Greenberg, George S. Perkins, Max M. Guggenheim, Jack Debrovner, Irving Debrovner, Charles Balin.

THE NULOMOLINE DIVISION, American Molasses Company, 120 Wall St., New York 5, N. Y. Booth No. 401. Featuring new candy formulas booklet, exhibiting summer and year-round candies, Nulomoline, Grandma's Old Fashioned Molasses, Convertit and Meloripe (Powdered Ripe Bananas). In attendance: Karl Fromm, John Calder, Fred Janssen, Nat Pike, James A. King.

E. T. OAKES CORP., Islip, L. I., N. Y. Booth No. 13.

PACKAGE MACHINERY COMPANY, Springfield, Mass. **Booths 301-302.** Hansella Mixer and cooker, Palmer Universal Carton Former. In attendance: George A. Mohlman, Roger L. Putnam, Sr., Roe S. Clark, Tom Miller, Ernest A. Hjelm, Charles A. Palmer, J. R. Tindal, Joseph J. Kelly, George D. Woody, R. S. Lyons, William Hilbig, Otto Halbach, Eberhard Berten, F. Jongmanns, Harry Hoskins, T. W. Russell, C. R. Strehlau, W. H. Keil, William Kerber, L. E. Evans.

PEERLESS CONFECTIONERY EQUIPMENT CO., 158 Greene St., New York 12, N. Y. Booth 31. Peerless Plastic machines & dies, Peerless universal Chocolate Foil wrapping machine, cooling conveyor. In attendance: Samuel Schwartz, Norman Schwartz.

PENICK & FORD LTD., INC., 420 Lexington Ave., New York 17, N. Y. Booth No. 2. Penford Corn Syrups, Douglas Starches. In attendance: D. P. O'Connor, H. A. Horam, O. H. Tousey, P. D. Wear, H. A. Harveym, F. J. McCrosson, J. A. Kooreman, W. J. Brown, Arthur Brooks, Don Cahoon, Norman Vance, O. W. Johnson.

THE C. M. PITT & SONS CO., Key Highway, Baltimore, Md. Booth No. 404. Dipping Cherries, glace fruit, flavors and specialties. In attendance: A. C. Beall, H. P. Thompson, W. D. Pitt, H. J. Thurker, H. J. Thurker, Jr.

RACINE CONFECTIONER'S MACHINERY CO., 15 Park Row, New York, N. Y. Booths No. 101-102.

RIEGEL PAPER CO., 342 Madison Ave., New York, N. Y. Booth No. 502.

ROSS & ROWE, INC., 50 Broadway, New York, N. Y. Booth No. 1.

SAVAGE BROS. CO., 2638 Gladys Ave., Chicago, Ill. Booth No. 405. Fire Mixers, Copper and stainless steel steam jacketed kettles and mixers, Atmospheric and forced draft gas furnaces, cooling slabs, marshmallow beaters, cutting machines for hard candy, caramel and nougat, sizing machines, cream Vacuum cooler, chocolate pump, revolving pans, chocolate mixers. In attendance: M. A. Savage, R. J. Savage, Jr., W. P. Halpin, R. W. Emerson, M. J. Linden, J. W. Linden, E. Jaeger, B. F. Savage.

ROBERT E. SAVAGE CO., 400 No. Michigan Ave., Chicago, Ill. Booth No. 45. Mills Nut breaker, mint puff machine, Halberg line, Resco Chocolate Equipment. In attendance: Alex Hunter, Ted Merckens, Oscar Segrin, N. H. Savage, Robert E. Savage.

F. J. SCHLEICHER PAPER BOX COMPANY, 1811 Chouteau Ave., St. Louis 2, Mo. Booth No. 303.

SIMPLEX PACKAGING MACHINERY, INC., 534 23rd Ave., Oakland, Calif. Booth No. 310.

A. E. STALEY MANUFACTURING COMPANY, Decatur, Ill. Booth No. 304. Sweetose syrup, corn syrup unmixed, Lecithin, confectioners moulding and thin boiling starches. In attendance: Paul D. Doolen, I. F. Wieland, R. L. Schuerman, W. W. Starks, O. D. Sutter, Geo. H. Batchelder, H. J. Reavis, L. H. York, E. H. Schrader, C. A. Moore, R. S. Alverson, Henry Volle, Harold Roche, F. H. Brock, C. C. Hollis, N. K. Hammer, Ralph Dombroski, George Moore.

STEINHARDTER & NORDLINGER, 105 Hudson St., New York 13, N. Y. Booth No. 302. Hard candy making equipment, chocolate machines and wrapping machines. In attendance: Dr. E. M. Huttrer, H. M. Kenter, Miss May Berk.

SYLVANIA DIVISION AMERICAN VICOSE CORPORATION, 1617 Pennsylvania Blvd., Philadelphia 3, Pa. Booth No. 201. Sylvania Cellophane. In attendance: R. D. Handley, T. H. Derby, A. J. Horgan, L. E. Nash, W. B. Zemann, F. W. Spannagel, V. N. Winkler.

TRAVER CORPORATION, 358 Ontario St., Chicago 10, Ill. Booth No. 512.

TRIANGLE PACKAGING MACHINERY CO., 6655 Diversey, Chicago, Ill. Booths No. 42, 43.

C. E. TWOMBLY COMPANY, 146 Mystic Ave., Medford 55, Mass. Booth No. 511.

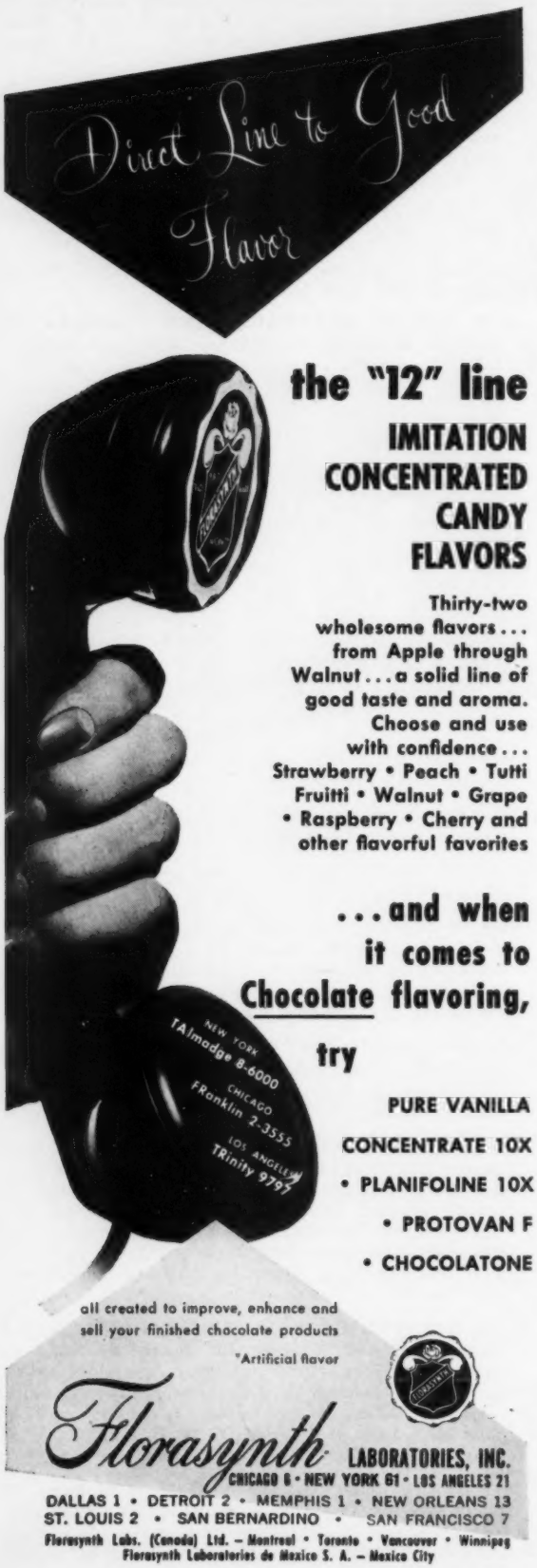
UNION CONFECTIONERY MACHINERY CO., INC., 318-322 Lafayette St., New York 12, N. Y., Booth No. 36-37. Rebuilt equipment for confectionery and chocolate industries. In attendance: Herman Greenberg, Sidney Greenberg, Sol Goldstein, Meyer Greenberg.

UNION SALES CORP., Columbus, Indiana. Booth No. 204. Products from corn. In attendance: E. B. Pulse, J. I. Miller, A. J. Snapp, H. E. Curry, J. E. Cleland, G. W. Anderson, D. Foster, W. W. Bissell, Julian Amodei.

VACUUM CANDY MACHINERY CO., Racine Confectioners' Machinery Co., 15 Park Row, New York 38, N. Y. Booths No. 101-102. Vacuum cooking & cooling units for creams or hard candy, Depositors, Sucker machines, caramel cutter, Two-Way bar cutters, stick candy twisting and cutting machines. In attendance: Claude J. Covert, J. L. Raffetto, W. F. Moore, R. S. Hislop, G. B. Hislop, Wm. Genrich, R. F. Gooderham.

VOSS BELTING & SPECIALTY COMPANY, 5645 No. Ravenswood Ave., Chicago Ill. Booth No. 106. All types of conveyor belting and canvas specialties for the confectionery industry, Hi-Gloss Enrober cooling tunnel belting and other enrober belting. In attendance: J. H. Voss, R. J. Voss, J. H. Voss, Jr., W. E. Frandsen, F. A. Gusinde, E. T. Kordt, Matthew J. Hoff.

THE WARFIELD CO., 536 W. 22nd St., Chicago, Ill. Booth No. 508. Chocolate coatings, candy bonbon coatings, American & Dutch Process cocoas, liquors. In attendance: Roger G. Hubbard, John Wakefield, Edward E. Ebel, Martin Kissane, Warner Byrun.


Direct Line to Good Flavor
the "12" line
IMITATION CONCENTRATED CANDY FLAVORS
Thirty-two wholesome flavors... from Apple through Walnut... a solid line of good taste and aroma. Choose and use with confidence...
Strawberry • Peach • Tutti Fruitti • Walnut • Grape • Raspberry • Cherry and other flavorful favorites
...and when it comes to Chocolate flavoring, try
PURE VANILLA CONCENTRATE 10X
• PLANIFOLINE 10X
• PROTOVAN F
• CHOCOLATONE
NEW YORK TAlmadge 8-6000
CHICAGO FRanklin 2-3555
LOS ANGELES TRinity 9795
all created to improve, enhance and sell your finished chocolate products
*Artificial flavor
Florasynth LABORATORIES, INC.
CHICAGO 6 • NEW YORK 61 • LOS ANGELES 21
DALLAS 1 • DETROIT 2 • MEMPHIS 1 • NEW ORLEANS 13
ST. LOUIS 2 • SAN BERNARDINO • SAN FRANCISCO 7
Florasynth Labs. (Canada) Ltd. – Montreal • Toronto • Vancouver • Winnipeg
Florasynth Laboratorios de Mexico S. A. – Mexico City

JOHN WERNER & SONS, INC., 713-729 Lake Ave., Rochester 13, N. Y. Booth 402. Confectionery machinery. In attendance: Charles Werner, Theodore Werner.

WHITE-STOKES CO., INC. 3615 Jasper Place, Chicago, Ill. Booth No. 9. Basic materials for candy trade, Fondax, Excello, Hanrol creme, Mozetta Creme, Whistojel Summer coatings. In attendance: J. E. Stokes, J. W. Lawrence, Ben Welcher, Chas. A. Dillon, William Alexander, E. G. Buchanan.

WHITSON PRODUCTS, Division of The Borden Co., 350 Madison Ave., New York 17, N. Y. Booth No. 23. Soyco and Whitson's No. 100 Whipping Agent. In attendance: G. H. Stuart, R. C. Owens, F. S. Strong, J. T. Watson, R. S. Schaeffer.

WRAP-ADE MACHINE COMPANY, INC., 83 Valley St., Belleville 9, N. J. Booth No. 625. Candy pop wrapping machine and bag sealing machines. In attendance: A. M. Powell, W. L. McCambridge.

INTERNATIONAL CONFECTIONER Booth No. 105.

Trade Press

THE MANUFACTURING CONFECTIONER, 9 S. Clinton St., Chicago 6, Ill. Booth No. 30

CANDY MERCHANDISING, 9 S. Clinton St., Chicago 6, Ill. Booth No. 30.

CANDY INDUSTRY, New York, N. Y. Booth No. 94.

CONFECTIONERY-ICE CREAM WORLD, New York, N. Y. Booth No. 59.

THE CONFECTIONER, Milwaukee, Wis. Booth 108.

CONFECTIONERS JOURNAL, Philadelphia 6, Penna. Booth 118.

INTERNATIONAL CONFECTIONER, INC., New York, N. Y. Booth No. 106.

Conventions -- Meetings

June 3-6—Associated Retail Confectioners of the U. S., Drake Hotel, Chicago.

June 7-9—National Candy Wholesalers Association Convention, Palmer House, Chicago.

June 10—Children's Day

June 17—Father's Day

June 17—Institute of Food Technologists Meeting, New York City.

June 17-20—Institute of Food Technologists, Hotel New Yorker

June 20-22—American Marketing Assn., Hotel Statler, Boston

June 21-23—Pennsylvania Manufacturing Confectioners' Assn., Galen Hall Hotel, Wernersville, Pa.

June 22-24—Boston Confectionery Salesmens Club, Wentworth By the Sea, Portsmouth, N. H.

July 18-21—Southern Wholesale Confectioners Association, Atlanta, Ga.

September 17-21—Premium Advertising Assn. of America, Hotel Astor, New York.

September 23-26—Philadelphia Candy Show, Philadelphia

Oct. 8-10—American Oil Chemists Society, Edgewater Beach Hotel, Chicago.

October 20—Sweetest Day.

Nov. 12-15—National Automatic Merchandising Assn., Public Auditorium, Cleveland.

Lyons, France

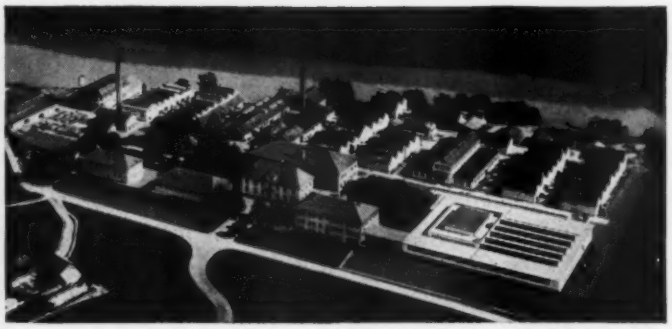
world renowned for its aromatic materials,

the house of

GIVAUDAN

Delawanna, N. J., U. S. A.

Vernier-Geneva, Switzerland



has developed an outstanding line of flavoring products which offer the delicately balanced quality of the natural aromas plus purity and uniformity obtainable only through rigidly controlled production methods.

Givaudan Flavors Inc.

330 West 42nd St. • New York 18, N. Y.

The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Marshmallows, Fudge

Code 6A51
Chocolate & Peanut Coated Marshmallow Bar
1 13/16 ozs. for 5 cents

(Purchased in a cigar store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine wrapper printed in silver and blue.
Bar:
Coating: Fair.
Center:
Color: Good.
Texture: Very tough.
Taste: Fair.
Remarks: Suggest marshmallow formula be checked as it is very tough.

Code 6B51
Chocolate Almond Nougat Bar
1½ ozs. for 5 cents

(Sent in for analysis #4715)

Appearance of Bar: Good.
Size: Good.
Wrapper: Cellulose wrapper printed in yellow, green and red.
Color: Good.
Texture: Good.
Taste: Good.

Code 6C51
Vanilla Pecan Nougat Bar
Sample #4716

Appearance: Good.
Size: Good.
Wrapper: Cellulose wrapper printed in blue and red.
Bar:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: Well made nougat bars and good eating. The best we have examined in some time.

Code 6D51
Chocolate Nut Fudge
1 lb. for 79 cents

Appearance of package: Good.
Sold in bulk
Container: Folding box printed in red, half in red plaid.
Fudge:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: One of the best samples of fudge we have examined this year.

Code 6E51
Vanilla Nut & Chocolate Nut Fudge
1 lb. 49 cents

(Purchased in a grocery store, Chicago, Ill.)

Sold in bulk.
Fudge:
Colors: Good.
Texture: Good.
Taste: Good.
Remarks: The best fudge we have examined this year at this price.

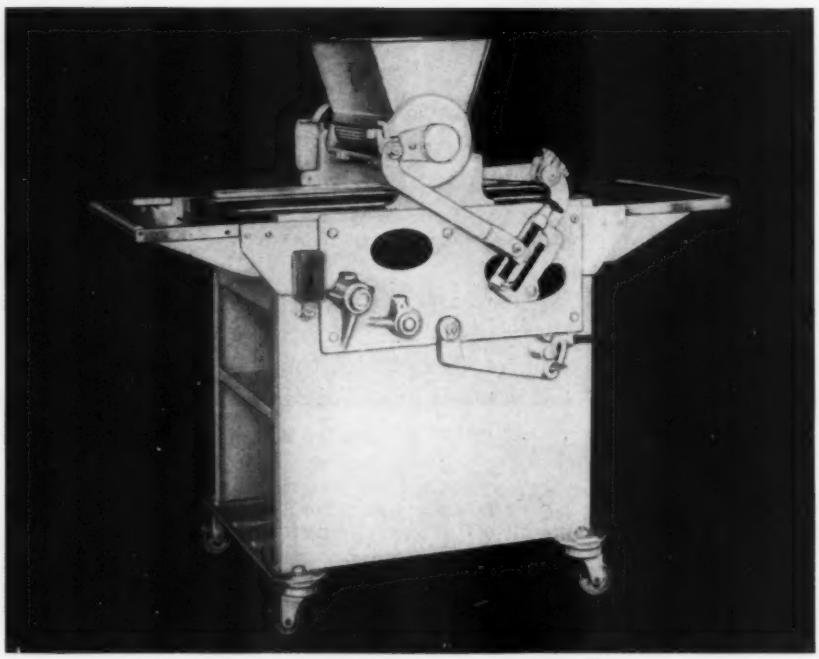
Candy Clinic Schedule For The Year

The monthly schedule of the CANDY CLINIC is listed below. When submitting items, send duplicate samples six weeks previous to the month scheduled.

JANUARY—Holiday Packages; Hard Candies
FEBRUARY—Chewy Candies; Caramels; Brittles
MARCH—One-Pound Boxes Assorted Chocolates up to $1.00.
APRIL—$1.00 and up Chocolates; Solid Chocolate Bars
MAY—Easter Candies and Packages; Moulded Goods
JUNE—Marshmallows; Fudge
JULY—Gums; Jellies; Undipped Bars
AUGUST—Summer Candies and Packages
SEPTEMBER—All Bar Goods; 5c Numbers
OCTOBER—Salted Nuts; 10c-15c-25c Packages
NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces
DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages, New Packages

You'll Like

THE TRIUMPH HANDY DEPOSITOR IN YOUR PLANT



Candy manufacturers all over the country are learning by experience that the Handy Candy Depositor is the answer to efficient, low-cost depositing in your plant.

- **It's Efficient . . .**
  Portable, easily adjusted for thickness and spacing, requires no extra space, can be stored when not in use.

- **It's Easy to Clean—Keep Clean . . .**
  All parts are accessible for cleaning. Exposed metal is stainless steel.

- **It's Low in Original Cost—Low in Maintenance Cost . . .** The cost of the Triumph Depositor is surprisingly low. Better still, it gives you long trouble-free service at low maintenance cost.

The Triumph Mfg. Co. Cincinnati

THE TRIUMPH MANUFACTURING CO.

3400 SPRING GROVE AVENUE CINCINNATI 25, OHIO

A Cordial Invitation

is extended to you by

D. P. O'CONNOR
O. H. TOUSEY
H. A. HARVEY
F. J. McCROSSON
ARTHUR BROOKS
DUKE VANCE
H. A. HORAN
P. G. WEAR
J. A. KOOREMAN
W. J. BROWN
DON CAHOON
O. W. JOHNSON

to visit our booth No. 2

at the

National Confectionery Industries Exposition

Hotel Stevens, Chicago, Illinois—June 4-7

P&F PENICK & FORD LTD. INC.
420 LEXINGTON AVENUE • NEW YORK
Factory... CEDAR RAPIDS, IOWA

Code 6F51
Chocolate Coated
Chocolate Fudge Bar
1¼ ozs. 5 cents

(Purchased in a railroad depot, Chicago, Ill.)

Appearance of bar: Good.
Size: Good.
Wrapper: Glassine wrapper printed in blue and yellow.
Bar:
Coating: dark: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best chocolate coated fudge bar we have examined this year.

Code 6G51
Chocolate Coated
½ Marshmallow Eggs
1 doz. 25 cents

(Purchased in a railroad depot, Chicago, Ill.)

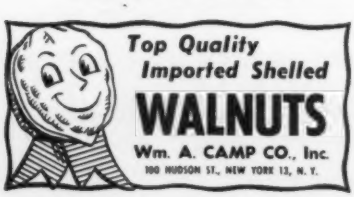
Appearance of package: Good.
Container: Regular egg crate printed in purple and green. Rabbits etc. imprinted in colors.
Eggs:
Coating: Poor.
Texture: Hard and tough.
Taste: Poor.
Remarks: The marshmallow eggs are not up to the standard of some of the other samples we have examined.

Code 6H51
Marshmallows
1 lb. 39 cents

(Purchased in a grocery store, Chicago, Ill.)

Appearance of package: Good.
Container: Four ¼ lb. packages in a wax wrapper. Outside paper wrapper printed in red and blue.
Marshmallows:
Color: Good.
Texture: Good.
Flavor: Good.
Remarks: An ideal marshmallow package, neatly put up and marshmallows were in fine condition. The best marshmallows of this kind we have examined this year.

Code 6I51
Assorted Chocolates



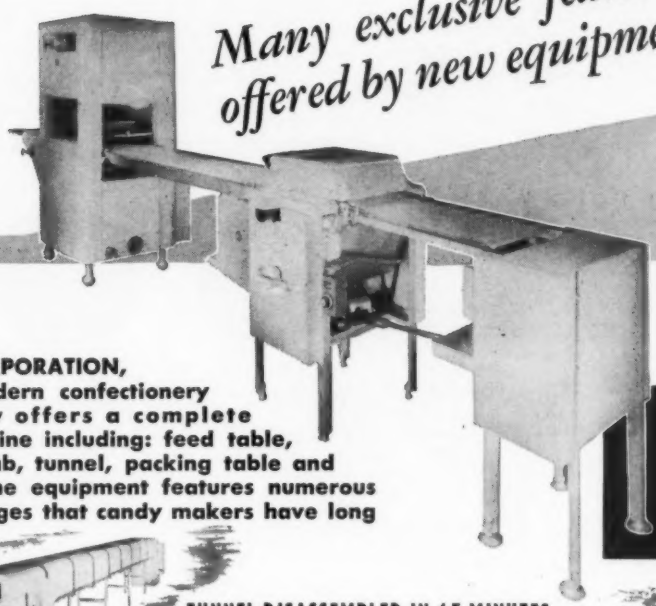
1 lb. $1.95

(Sent in for analysis #4717)

Appearance of package: See remarks.
Box: One layer type, gold paper top, name printed in black.
Appearance of box on opening: Poor. See remarks.
Number of pieces:
Dark coated: 38
Light coated: 5
Coatings:
Colors: Good.
Gloss: Poor.
Strings: Fair.
Taste: See remarks.
Centers: dark coated:
Nut nougat: Good.
Peppermint cream: Flavor good, cream, poor, dry.
Cordial cherry: Good.
Almond paste: Good.
Vanilla caramel: Grained.
Dark cream: Could not identify flavor.
Nut chew: Good.
Chocolate Ganach: Good.
Chocolate caramel: Too hard to eat.
Filbert & chocolate paste in foil cup: Good.
Pink center: Could not identify flavor.
Glace brazil: Good.
Glace pineapple: Good.
Light coated centers:
Chocolate paste: Good.

DUBIN INTRODUCES * PRE-TEMP CHOCOLATE COATER LINE!

Many exclusive features offered by new equipment

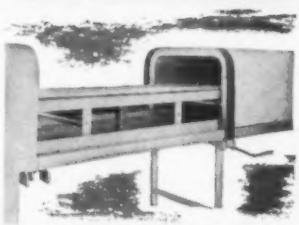


* **R. M. DUBIN CORPORATION, noted for its modern confectionery equipment, now offers a complete chocolate coater line including: feed table, bottomer, cold slab, tunnel, packing table and drive pedestal. The equipment features numerous exclusive advantages that candy makers have long been seeking.**

DUBIN

TUNNEL DISASSEMBLED IN 15 MINUTES

The Dubin tunnel comes in 3-ft. sections. To clean, merely turn the turn buckle, remove strap and lift cover. No screws or bolts. A ten-section tunnel can be disassembled in about 15 minutes — less than 2 minutes a section!



COLD AIR FORCED OVER BOTTOM AND TOP

The metal lined tunnel is completely insulated with fiber glass. Cold air is introduced along tunnel bottom and travels full length where booster blower picks up air from both sides and sends it along top of coated goods. At front end of tunnel the air is picked up by blower and moisture removed. Cold dry air is returned along bottom again. This *tripple cooling* ensures cool belt to receive coated goods, thus blast of cold air on top of goods when first entering tunnel is eliminated.

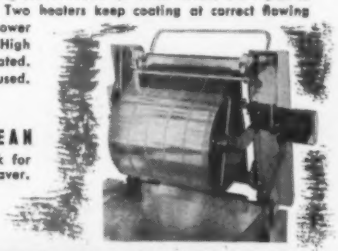
COMPLETE DETAILS ON REQUEST

Send today for complete details. Learn how it will save you time, labor and overhead.

DUBIN PRE-TEMP CHOCOLATE COATER Mixer in upper portion of coater, and coating flows down over goods. Free access to working parts, without work interruption is had through sliding Plexiglass windows on three sides. Flow pan is lowered or raised by handy knobs. Two heaters keep coating at correct flowing temperature. Double nozzle air blower directs air at any required angle. High confections (nut clusters) can be coated. Chocolate, icing or fondant may be used.

BOTTOMER EASY TO CLEAN

Bottomer is quickly raised from tank for cleaning—decided time and labor saver.



R. M. DUBIN CORPORATION

CONFECTIONERS MACHINERY

2500 SOUTH SAN PEDRO STREET • LOS ANGELES 11, CALIFORNIA

Consumers prefer

that extra "plus" of dextrose food-energy sugar

make your candies with

CERELOSE · PURITOSE · GLOBE

CANDY manufacturers can depend on the uniform high quality and fine performance of these products.

Full technical service, no obligation

CORN PRODUCTS REFINING COMPANY

17 Battery Place • New York 4, N. Y.

CERELOSE BRAND dextrose — PURITOSE BRAND CORN SYRUP — GLOBE BRAND CORN SYRUP

MEET US AT BOOTH 403
CONFECTIONERY INDUSTRIES EXPOSITION
•
HOTEL STEVENS
CHICAGO
JUNE 4-7

*Cerelose, Puritose, Globe, Buffalo and Hudson River are registered trademarks of Corn Products Refining Co., New York, N. Y.

CONVEYORS

Corrigan bulk dry sugar handling and storage systems convey sugar from unloading point to storage and from storage to production.

Improve production facilities
Lower operation costs

J. C. CORRIGAN CO. INC.

41 Norwood St., Boston 22, Mass.

Dark cream center: Hard and tasteless.
Chocolate paste & nuts in foil cup: Good.

Assortment: Small.

Remarks: Very cheap box for this priced candy. Box is too large for a one pound assortment. A number of pieces were broken. Coatings are not up to the standard used on this priced candy. Centers need checking up; also some of the flavors. Dipping is poorly done and the strings are too plain. Suggest you purchase any two dollar box on the market made by a large manufacturer and compare coatings, centers and workmanship to your box. Highly priced at $1.95 the pound.

Code 6J51
Marshmallow Bananas—1c

(Sent in for analysis #4718)
Sold in 120 count boxes

Bananas:
Color: Good.
Size: Good for a 1c seller.
Molding: Good.
Texture: Too hard and short.
Flavor: Good.

Remarks: Suggest formula be checked as banana is too hard and "short" in texture.

Code 6K51
Chocolate Coated Peppermint Cream Cake
1¼ ozs. for 5 cents

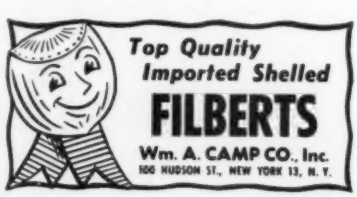
(Purchased in a cigar store, Boston, Mass.)

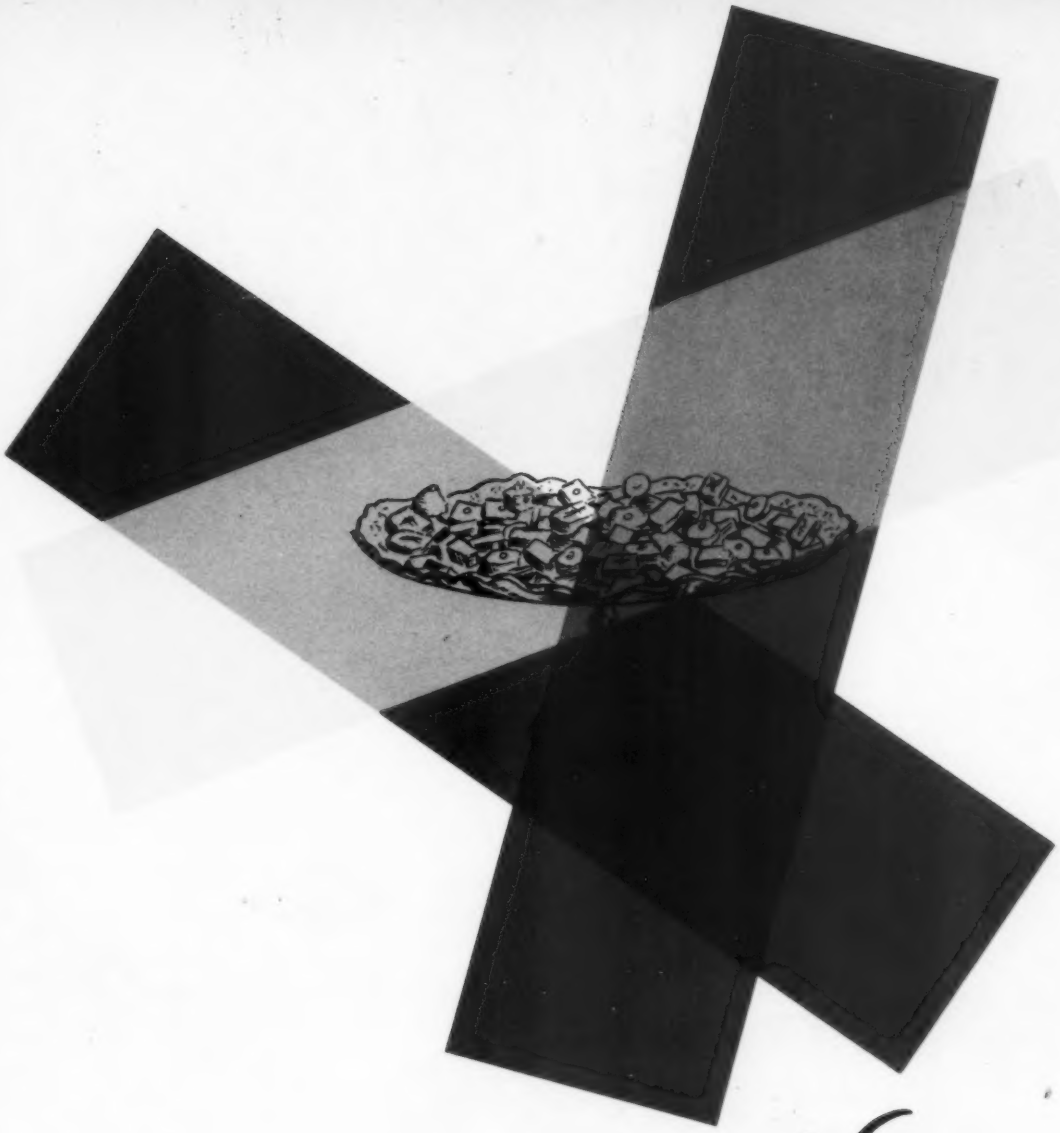
Appearance of bar: Good.
Size: Good.
Wrapper: Foil wrapper, white paper band printed in green and blue.
Bar:
Chocolate: dark: Good.
Molding: Good.
Center:
Color: Good.
Texture: Good.
Flavor: Good.
Remarks: One of the best coated cream cakes we have examined this year.

Code 6L51
Assorted Home Made Candies
1 lb. No price stated

(Sent in for analysis #4721)

Appearance of package: Good.





THE FINEST FOODS CONTAIN *National* CERTIFIED FOOD COLORS

The pure-dye percentage in National Certified Colors is held within remarkably close limits batch after batch. Once you establish a color formula, you can be sure the same formula will produce the same shade again and again.

CERTIFIED COLOR DIVISION

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

BOSTON PHILADELPHIA CHICAGO CHARLOTTE SAN FRANCISCO PORTLAND, ORE. TORONTO

Let's talk Blue Diamond Almonds at the N.C.A. Exposition

Put it another way, if you like. Let's talk about *selling candy* . . . and about the proved sales magic in the word "almonds". We'll be at the Exposition (Booth 507) with samples of California's finest Blue Diamond almonds . . . and with full information about current developments in the almond industry.

CALIFORNIA ALMOND GROWERS EXCHANGE
Sacramento, California
Sales Offices Chicago and New York

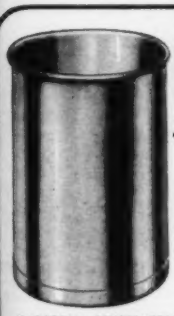
BLUE DIAMOND BRAND

CONFECTIONER'S
CORN SYRUP
EXCEPTIONALLY PURE! CRYSTAL CLEAR! ABSOLUTELY UNIFORM!

AT YOUR SERVICE! Consult Hubinger's technical laboratories for help with your candy-making problems. No obligation, of course.

OK BRAND THIN BOILING STARCHES · OK BRAND MOULDING STARCH

THE HUBINGER CO., KEOKUK, IOWA
EST. 1881



STANcase STAINLESS STEEL EQUIPMENT
STAINLESS STEEL DRUMS
MODEL 30--30 GAL.
MODEL 55--55 GAL.
(Covers available)
ECONOMY EQUIPMENT
RUGGEDLY CONSTRUCTED FOR LIFE TIME WEAR.
FULLY APPROVED BY HEALTH AUTHORITIES.
Manufactured by
The Standard Casing Co., Inc.
121 Spring St., New York 12, N. Y

WAREHOUSE
and
DELIVERY SERVICE
in
METROPOLITAN NEW YORK
- Clean, insulated warehouse that handles candy products only
- Accessible to and from all points in Metropolitan New York area. .

THOMAS J. REALE
353 Observer Highway
Hoboken, N. J.

Box: One layer type, peach colored glazed paper top printed in white. Imprint of girl in white. Cellulose wrapper.
Appearance of box on opening: Good.
Number of pieces:
Dark coated: 17
Light coated: 16
Foiled Piece: 1
Coatings: dark and light.
Colors: Good.
Gloss: Good.
Strings: Good.
Taste: Fair.
Dark coated centers:
Nougatine: Good.
Orange colored cream: Could not identify flavor.
Vanilla cream: Good.
Chocolate caramel: Had a scrap taste.
Dark cream: Could not identify flavor.
Pink cream: Could not identify flavor.
Cocoanut cream: Good.
Dark cream: Could not identify flavor.
Nut cream: Lacked flavor.
Light coated centers:
Foiled cordial cherry: Good.
Vanilla caramel: Good.
Yellow cream: Lacked flavor.
Orange colored cream: Lacked flavor.
Chocolate nut cream: Lacked a good chocolate flavor.
Brazils: Good.
Chips: Good.

RIBBONS for your Candies
Satins · Moires · Taffeta
Gros-Grain · Rib-o-nit
Rayon and Chiffon
R. C. TAFT CO.
111 NORTH CANAL STREET
CHICAGO 6, ILLINOIS

Assortment: Too small.
Remarks: Box contained too many of the same creams. Suggest a better grade of flavors be used. We have examined better assorted chocolates at 80c to 90c the pound.

Code 6M51
Hand Rolled Assorted Chocolates
1 lb. No price stated

(Sent in for analysis #4720)

Top Quality
CASHEW NUTS
Wm. A. CAMP CO., Inc.
100 HUDSON ST., NEW YORK 13, N. Y.

BACHMAN chocolate

coatings are the finest blends you can use...top quality...always uniform.

IF YOU HAVE A CHOCOLATE PROBLEM, BRING IT TO **BACHMAN**

CHOCOLATE
MANUFACTURING
COMPANY
MOUNT JOY,
PENNSYLVANIA

CODE DATING
CANDY BARS

Automatic—Any Speed
5 to 10 Built-in Digits
Permits quality control and proper stock identification

KIWI CODERS CORP.
3804-06 N. Clark St., Chicago 13, Ill.

Crest Laboratories

Harold Crooks, Director

Analysis of chocolate coatings and raw ingredients.

Microscopic analysis of all confectionery products for foreign matter.

Crest Laboratories
40-20 Twenty Second St.
Long Island City 1, N. Y.
STillwell 4-4091

Appearance of package: Good.
Box: One layer type, white glazed paper top printed in brown. Silhouette of girl's head embossed in brown. Cellulose wrapper.
Appearance of box on opening: Good.
Number of pieces:
Dark coated: 17
Light coated: 14
Coatings: dark and light.
Colors: Good.
Gloss: Good.
Strings: Machine.
Taste: Fair.
Dark coated centers:
Lemon cream: Lacked flavor.
Maple cream: Cheap flavor.
Pink cream: Could not identify flavor.
Vanilla cream: Good.
Nougatine: Good.
Cocoanut cream: Good.
Chips: Good.
Vanilla caramel: Good.
Light coated centers:
Dark cream: Could not identify flavor.
Pink cream: Could not identify flavor.
Chocolate cream: Lacked a good chocolate flavor.
Ting Ling: Good.
Orange colored cream: Lacked flavor.
Vanilla caramel: Good.
Nougatine: Good.
Assortment: Too small.
Remarks: Box contained too many of the same creams. Suggest a better grade of flavors be used. We have examined better chocolates at 70c and 75c the pound.

Code 6N51
Hand Rolled Assorted Chocolates
1 lb. No price stated

(Sent in for analysis #4719)

Appearance of package: Good.
Box: One layer type, white glazed paper top printed in brown. Cellulose wrapper.
Appearance of box on opening: Good.
Coatings: dark and light.
Colors: Good.
Gloss: Good.
Strings: Good.
Taste: Fair.
Number of pieces:
Dark coated: 17
Light coated: 13
Dark coated centers:
Vanilla cream: Good.
Buttercream: Good.
Cocoanut cream: Good.
Dark creams & nuts: Could not identify flavor.
Chocolate caramel: Had an off taste.
Pink cream: Could not identify flavor.

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superior fruit flavors

polak's frutal works, middletown, n. y.

represented in all principal cities
in the United States
and throughout the world

ESSENTIAL OILS
PERFUME BASES
AROMATIC CHEMICALS

Orange nut cream: Flavor is not up to standard.
Nougatine: Good.
Light coated centers:
Yellow colored cream: Could not identify flavor.
Vanilla caramel: Good.
Orange cream: Flavor not up to standard.
Maple cream: Cheap flavor.
Nougatine: Good.
Nut ting ling: Good.
Nut buttercream: Good.
Cocoanut cream: Fair.
Assortment: Too small.
Remarks: Box contained too many creams of the same kind. Suggest a better grade of flavors be used. We have examined better hand rolled chocolates at 80c and 90c the pound.

Code 6O51
Assorted Chocolates
1 lb. No price stated

(Sent in for analysis #4722)

Appearance of package: Good.
Box: Two layer type, full telescope. White glazed paper top printed in red and gold. Center embossed panel of gold and black. Name embossed in white. Cellulose wrapper and cellulose Easter band printed in colors.
Appearance of box on opening: Fair.
Number of pieces: 35
Coating: chopped almonds in milk chocolate:
Color: Good.
Gloss: Poor.
Strings: Poor.
Taste: Good.
Centers:
Vanilla chew: Good.
Cocoanut cream: Good.
Pink cream: Could not identify flavor.
Vanilla caramel: Good.
Molasses chew: Good.
Vanilla cream: Good.
Orange cream: Weak flavor.
Chip: Good.
Chocolate cream: Dry.
Maple cream: Poor flavor.
Solid chocolate & nuts: Good.
Assortment: Too small.
Remarks: Assortment contained too many creams, caramels, and molasses chews. Some of the flavors are not up to the standard used in quality centers. Box is entirely too large for a one pound assortment of chocolates of this size pieces. We suggest false bottom be left out as this is deceptive packing and could be picked up by the Food and Drug inspectors.

Code 6P51
Assorted Chocolates
1 lb. No price stated

(Sent in for analysis #4723)

Appearance of package: Good.
Box: Two layer type, full telescope. White glazed paper top. Center panel embossed in gold and green. Name embossed in white in small black panel. Cellulose wrapper and cellulose Easter band printed in colors.
Appearance of box on opening: See remarks.
Number of pieces: 49
Coating: dark:
Color: Good.
Gloss: Good.
Strings: Good.
Taste: Good.
Centers:
Filberts: Good.
Brazils: Good.
Solid chocolate & nuts: Good.
Almonds: Good.
Chocolate cream: Dry.
Vanilla cream: Good.
Pink cream: Could not identify flavor.
Maple nut cream: Poor flavor.
Orange cream: Flavor weak.
Molasses chew: Good.
Chips: Good.
Vanilla chew: Good.
Vanilla caramel: Good.
Assortment: Too small.
Remarks: The assortment is not up to the standard of many one pound

SPEAS

APPLE PRODUCTS
the Standard of Quality
for sixty years

NUTRL-JEL
for preserves, jams, jellies, marmalades

CONFECTO-JEL
for jellied candies

Powdered *Apple* Pectin
for CONFECTIONERS

CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

RACINE (Continuous Automatic)

Stick Candy Sizing-Twisting-Cutting Machine

CAN BE SEEN

→

ON DISPLAY
Booths #101-102
N.C.A. Convention
Chicago June 4th-7th

Floor Space: 5' long, 3' wide, 3½' high

For Round or Triangular Twisted Sticks of Any Length or Thickness

The Racine Stick Candy Machine will handle solid sticks, clear or pulled, or sticks with honeycombed centers, etc. It sizes, twists and cuts the sticks to perfect uniformity and diameter of the sticks and the amount of twist and length of stick can be adjusted as desired.

Only one operator required to feed the machine continuously from a batch roller or flat board as desired and the sizing, twisting and cutting of the sticks is entirely automatic.

Equipped with ½ H.P. motor and can be operated from power or lighting circuit, whichever is the most convenient. Speed 450 to 900 inches per minute or up to 300 inch long sticks, or 100 nine inch sticks per minute, speed controlled through variable speed transmission.

Stick Candy Canes can also be produced continuously and automatically with the addition of conveyor with crooking device. Write us for complete particulars and samples.

Manufactured by

Racine Confectioners' Machinery Co.

and

Vacuum Candy Machinery Co.

15 PARK ROW, NEW YORK 38, N. Y.

Western Office and Factory: Racine, Wis.
Eastern Factory: Harrison, N. J.

Canadian Office and Factory: Toronto
Local Offices in Chicago and Boston

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LOOK *for that* BALANCED FORMULA

in our new booklet . . . "Balanced Candy Formulas"

TESTED FORMULAS for:
Caramels . . . Chewing Candies . . . Creams . . .
Coconut Candies . . . Fudge . . . Hard Candies . . .
Jellies and Gums . . . Marshmallow . . . Nougat—

Use CONVERTIT®
and NULOMOLINE®
to protect
and preserve
your candies . . .

For
CANDY KNOW-HOW
Visit Booth No. 401
Confectionery Industries Exposition
June 4-7, 1951
Hotel Stevens, Chicago

THE NULOMOLINE DIVISION
AMERICAN MOLASSES COMPANY
Manufacturers of Nulomoline (Standardized Invert Sugar) and Syrups
120 WALL STREET, NEW YORK 5, N. Y.
330 East N. Water St., Chicago 11, Ill. 751 Terminal St., Los Angeles 21, Calif.
NULOMOLINE LIMITED: 1410 Stanley St., Montreal 2, Canada

boxes of assorted chocolates on the market. Suggest some of the flavors be improved by using a better grade of flavors. Box is entirely too large for a one pound assortment of this size pieces. Suggest the fake bottom be left out as this is deceptive packing and could be picked up by the Food and Drug inspectors.

Code 6Q51
Chocolate Nut Fudge
2 ozs. for 5 cents

(Purchased in a railroad depot, Chicago, Ill.)

Appearance of bar: Good.
Size: Good, square shape.
Wrapper: Cellulose wrapper printed in gold and blue.
Fudge:
Color: Good.
Texture: Very hard and dry.
Taste: Fair.
Remarks: Bar lacked a good flavor and was too hard for a fudge bar.

Continued from May 1951 Issue

Code 5N51
Milk Chocolate Sitting Rabbit
3 ozs. for 29c

(Purchased in a chain department store, Chicago, Ill.)

Appearance of piece: Good.
Size: Good.
Wrapper: Cellulose wrapper, name printed in yellow and green.
Rabbit:
Coating: milk: Good.
Gloss: Good.
Molding: Good.
Taste: Good.
Remarks: A good looking rabbit. The best we have examined this year at this price.

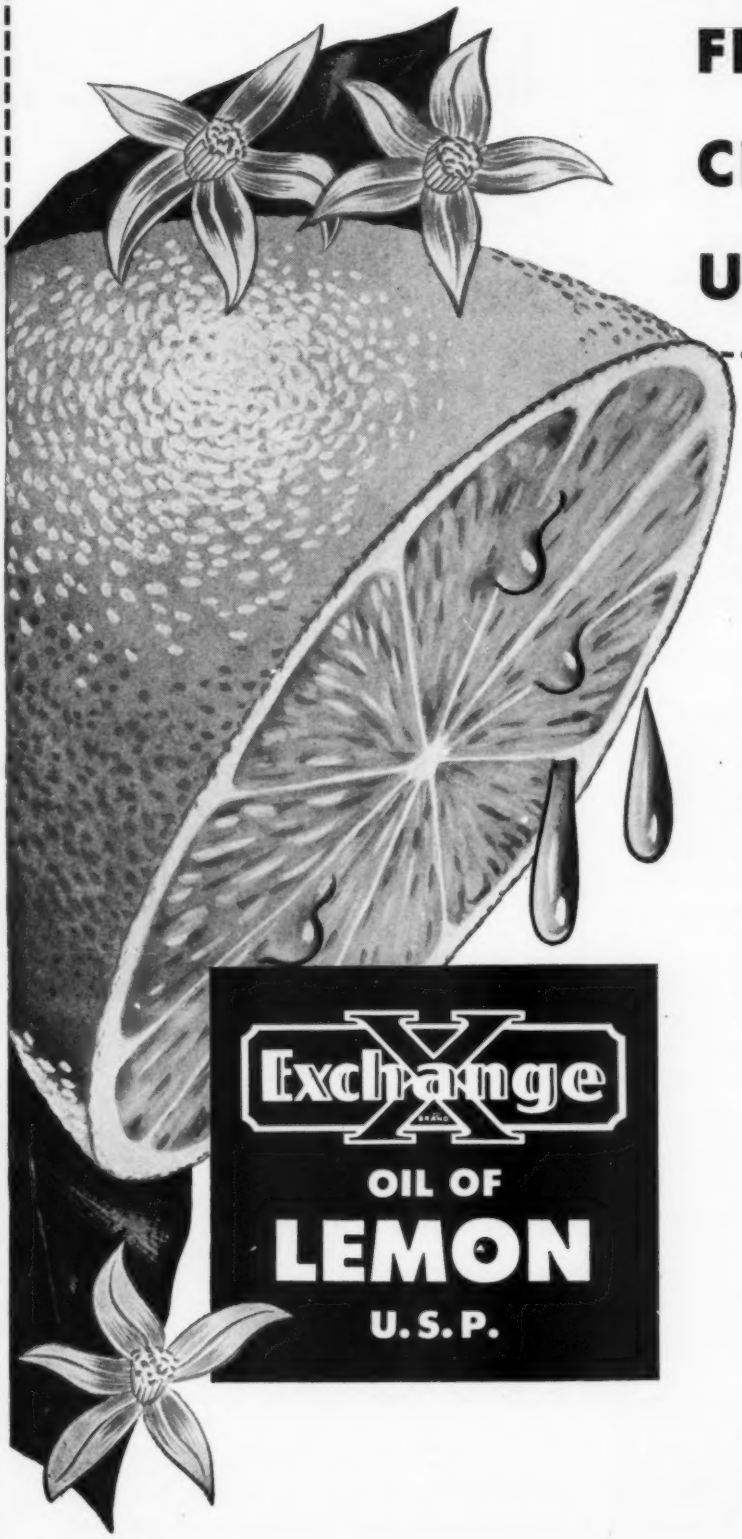
Code 5O51
Assorted Chocolates
1 lb.
No price stated

(Sent in for analysis No. 4714)

Appearance of package: Good.
Box: One layer type, buff mottle paper top, name embossed in green. White paper wrapper, tied with green grass ribbon.
Appearance of box on opening: See remarks.
Number of pieces:
Dark coated: 16.
Light coated: 15.
Coatings:
Colors: Good.
Gloss: See remarks.
Texture: Good.
Strings: Good.
Taste: Good.
Dark coated centers:
Nougatine: Good.
Vanilla nut cream: Good.
Vanilla nut caramel: Good.
Chocolate cream: Good.
Hard candy blossom: Good.
Maple nut cream: Good, flavor fair.
Buttercream: Good.
Peanut cluster, cream center: Good.
Grape jelly: Good.
Brazil: Good.
Vanilla cream: Good.
Date: Good.
Peppermint cream wafer: Good.
Light coated centers:
Peanut cluster: Good.
Vanilla nut fudge: Good.
Vanilla cream: Good.
Coconut top buttercream: Good.
Coconut cluster: Good.
Orange cream: Lacked flavor, entirely too much color used.
Vanilla nut cream: Good.
Nougatine: Good.
Chocolate cream: Good.
Nut chips: Good.
Vanilla nut caramel: Good.
Peppermint cream wafer: Good.
Jordan almonds: Good.
Assortment: Good.
Remarks: Suggest that coconut and sprill top pieces be wrapped in cellulose as small pieces of each were all over the other pieces spoiling the appearance of the box on opening. Well made candy and of good quality. Suggest retail price of $1.15 to $1.25 the pound.

8 out of 10 say it's *best* for

FLAVOR
CLARITY
UNIFORMITY



Yes, more than 80% of all the lemon oil used in the United States is Exchange Lemon Oil!

This overwhelming endorsement by the trade is your guarantee that Exchange Lemon Oil delivers *quality*... quality in the form of superior *flavor* and unmatched *clarity* and *uniformity*.

Always specify it by the brand name when you order—Exchange Oil of Lemon. For complete satisfaction, accept no other brand.

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FRITZSCHE BROTHERS, INC.
76 Ninth Avenue, New York 11, N. Y.

DODGE & OLCOTT, INC.
180 Varick Street, New York 14, N. Y.

Distributors for:

CALIFORNIA FRUIT GROWERS EXCHANGE
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The pre-eminent candy makers of the nation have tested "BURCO" Products and found that they are outstanding.

You, too, will find them reliable, economical producers of repeat business.

Outstanding formula using NU-KREME

We recommend that you try NU-KREME, the finest nougat cream on the market for Sea Foam Kisses: Place in a kettle 10 lbs. Sugar, 3 lbs. of Corn Syrup and 1 quart of water. Cook to 260 degrees. Stir in 7 lbs. of NU-KREME. Stir hard until batch starts to set up. Then add ¾ oz. of vanilla, 2 tablespoons of salt and 2 lbs. of Bonbon Cream. Beat well and add Nuts to suit.

NU-KREME Grade A of all Nougat Creams.
CONFECTIONERS' PECTIN for cut slab jellies.
NU-MILK Whole Milk in Plastic form for Caramels and Fudges.
FRESH COCOANUT PASTE Ready to use for Chocolate or Bon Bon Centers.
PECTOLENE a Pectinized Invert Sugar Product.
CENTER-ROLL KREME for Soft-flowing Creams.
KREME-TEX for Creamy Fudge and Caramels.
DIPPING PIECES Molasses Honey-comb Chips, Peanut Butter Chips, Toasted Coconut Chips, Chocolate Center Chips, Almond Butter Sticks, Mint Pillows and Peanut Butter Pillows.
BURCO NOUGAT CREME The All Purpose Nougat Cream.
TOPPINGS Marshmallow, Butterscotch, Caramel and Chocolate Fudge.

Formula Book "RECIPES FOR BETTER CANDIES" sent with initial order

BURKE PRODUCTS CO. INC.
117 W. HUBBARD ST. CHICAGO 10, ILLINOIS

Confectioners' Briefs

Mrs. Julia Steven
President,
Steven Candy Kitchens, Inc.

• **Mrs. Julia C. Stevens,** president and founder of Steven Candy Kitchens, Inc. Chicago, announces the following personnel changes: W. R. MacLean, vice-president and general manager of Steven Candy Kitchens, Inc. and affiliated companies; S. H. Lyson, treasurer; M. E. Sayre, vice-president, has been placed in charge of all production.

• **Chocolat-Menier, Inc.,** Hoboken, N. J., has named William H. Davis sales manager according to an announcement by Paul F. Moser, general manager. Mr. Davis was formerly associated with Wallace & Co., Brooklyn, as general sales manager and before the last war was in the sales department of Beech Nut Packing Company.

• **Andrew H. Heide,** grandson of founder Henry Heide, has been made a vice-president of Henry Heide, Inc., New York. Son of Julius A. Heide, senior vice-president, Andrew has been associated with the firm for nineteen years. He has been a member of the Board of Directors since 1940 and secretary since 1948, an office which he retains. With a background of sales and merchandising activities, Andrew Heide has worked as an outside salesman in both the bakery and confectionery divisions. Most recently he has been in charge of variety chain store merchandising. In his new capacity Mr. Heide will devote himself to broad aspects of corporate management.

• **Bowman Gum Company,** through William Savage, vice-president, has announced the appointment of Leonard Kamber as sales promotion manager. Mr. Kamber was formerly with Walter H. Johnson Candy Co. and I. & H. Kamber. Charles Wrightson has been appointed export sales manager.

ROPED... by a wonderful flavor!

with

WILBUR CHOCOLATE COATINGS

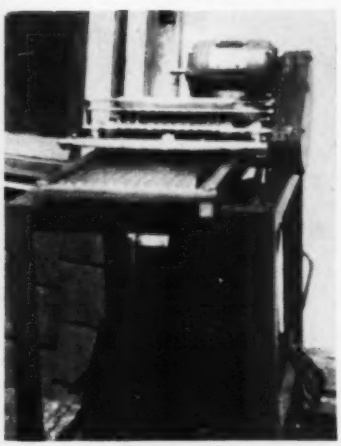
Give your candies that "*Buy another*" taste

WILBUR SUCHARD CHOCOLATE COMPANY, INC. • LITITZ, PA.

NEW—NEW—NEW

Caramel—Nougat Cutting Machine

Patent Applied For (Gimbert patent)



No Belt!

50% Less Power!

Circular Knives 100% Longer Life!

Clean-Accurate Cutting

Midget Size Starts at $295.

Also NEW Figaro, Fudge, Jellies Cutting Machines

Booth 104 NCA Exposition

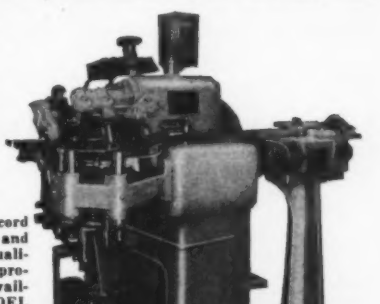
G. M. B. Machinery Co.

84 Madison Ave. **Jersey City, N.J.**

IDEAL WRAPPING MACHINES

FAST-EFFICIENT-RELIABLE

CANDY manufacturers both large and small *prefer* IDEAL WRAPPING MACHINES because they provide the economies of fast handling along with *dependable, uninterrupted operation.* In use the world over, IDEAL Machines are building a service record that stands unmatched and unchallenged! Our unqualified guarantee is your protection. Two models available: SENIOR MODEL wraps 160 pieces per minute; the new High Speed Special Model wraps 325 to 425 pieces per minute. Investigation will prove these machines are adapted to your most exacting requirements.



WRITE FOR COMPLETE SPECIFICATIONS AND PRICES

IDEAL WRAPPING MACHINE CO.

MIDDLETOWN, N. Y. **U. S. A.**

EST. 1906

VOSS
FOR BELTS

Years of specialization in working out Candy Plant problems have put VOSS Belts way out in front with operations men throughout the country. Our broad line covers the needs of every department:

- ✓ENROBER BELTING and PLAQUES —*all types, weights, textures*
- ✓ENDLESS BOTTOMER and FEED BELTS — *treated or plain*
- ✓PACKING TABLE BELTING — *treated or plain*
- ✓CARAMEL CUTTING BOARDS
- ✓BATCH ROLLER BELTING
- ✓WIRE ENROBER BELTING
- ✓*Rubber* VOSSTEX CONVEYOR BELTING

For the *right* Belt—for longer life and greater freedom from trouble—the answer for Candy makers is to

"CALL VOSS!"

Talk over your Belt needs with us — at
BOOTH 106
at the Chicago Show

VOSS BELTING & SPECIALTY CO.
5647 NORTH RAVENSWOOD AVENUE
CHICAGO 26, ILLINOIS
Eastern Office: 118 E. 28th St., New York 16

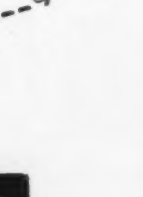
Frank V. Brach (left) and Edwin J. Brach.

• **E. J. Brach & Sons** Chicago, moved up a number of their principal officers and also elected two new vice-presidents.

Edwin J. Brach, president, was elected chief executive officer and chairman of the board. Frank V. Brach, executive vice-president, secretary and treasurer, was elected president.

Clinton O. Dicken, vice-president, was elected executive vice-president. **Edwin O. Blomquist,** vice-president, was elected vice-president and secretary. **Edward M. Kerwin,** vice-president, was elected vice-president and treasurer. **Stephen T. Powers,** assistant secretary, was also elected assistant treasurer.

The new officers are Frank K. Gleason, who was elected vice-president in charge of general line sales, and R. H. Hawley, who was elected vice-president



HEAD FOR THE SPOTS
WHERE OLD FRIENDS MEET
IN BOOTH 27
OR OUR HOTEL SUITE

Food Materials
corporation
2521 West 48th St., Chicago 32

BOOTH 27

NCA CONVENTION • STEVENS HOTEL • CHICAGO • JUNE 3-7

in charge of syndicate sales. Both of these men were also selected as members of the executive committee. Mr. Gleason has been with the company twenty-eight years and Mr. Hawley, seventeen years. Arthur Bridge, controller, was elected assistant secretary.

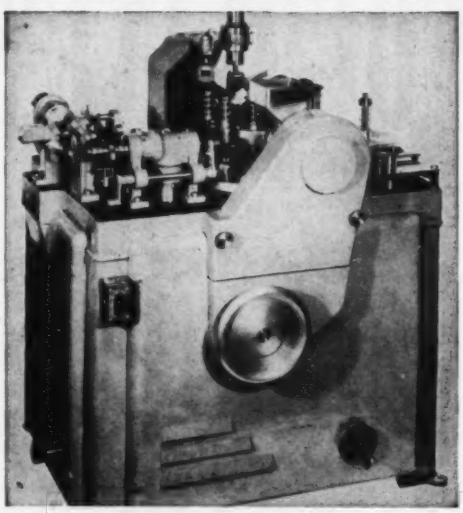
At the annual stockholders meeting, Mr. Edwin J. Brach stated that for the six months ending March 31 the company's business, in dollar sales, was slightly over 8% ahead of the same period a year ago. In the first four months of this calendar year increases in sales were obtained and a continuing healthy growth is expected for the balance of the year.

"The improvement program for plant and equipment is practically completed," Frank V. Brach told the stockholders, "and has greatly increased efficiency and operation."

• **Fanny Farmer Candy Shops, Inc.,** New York, is celebrating its 32nd birthday. The first white shop opened in Rochester in 1919. A program of substantial expansion through 1951, covering all eight districts, is planned, President John D. Hayes told the shareholders at their annual meeting. Current plans call for new shops both in the 204 cities in which they now operate and in other cities.

• **Loft Candy Shops,** New York, announce the appointment of Paul Giurlando, who has been chief field auditor, as assistant to the director of store operations, Samuel Kostick.

LATINI *Continuous*
DIE POP MACHINE



• high speed production • controlled weight & size of pops
• interchangeable dies
• guaranteed performance • economical operation

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CHOCOLATE SPRAYING CO., INC.
2035-39 W. GRAND CHICAGO 12, ILL.
Rep. John Sheffman Inc., 152 W. 42nd St., New York 18, N. Y.

Better Candy with
BREWERS DRIED YEAST

a natural source of flavor and nutrition

This novel ingredient imparts flavor, textures, keeping qualities . . . adds B Vitamins, proteins, and minerals to

CARAMELS • FUDGE
HARD CANDY • NOUGATS

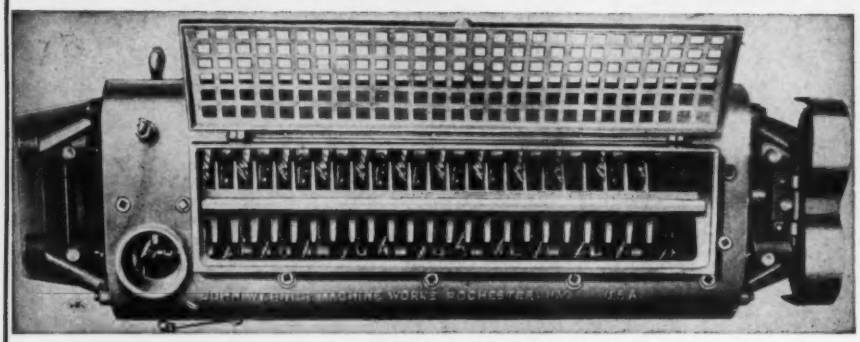
Joint research by the USDA, NCA and BYC at the Candy Laboratory in New Orleans has demonstrated the merits of Brewers Dried Yeast as an ingredient in most types of candy. It improves the flavor, texture and prolongs shelf life . . . at the same time increases the nutritive value of candy by imparting high quality protein, the known B vitamins and essential minerals.

Write for your Free Copy of basic formulas.

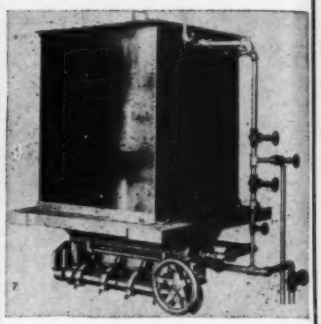
BREWERS YEAST BYC COUNCIL

BREWERS YEAST COUNCIL, INC.
314 N. Broadway • Dept. CD-51 • St. Louis 2, Missouri

THE WORLDS *LOWEST COST* PRODUCER OF FONDANT



2 Cylinder Snow Flake Fondant Beater



Peerless Fondant Cooler

The Greatest name in Fondant Equipment

- Perfect Beating and Cooling, plus super-aeration.
- Frictional heat removal by ventilation and water jacket.
- The Werner "Uniflow Coil" gives uniform cooling, which results in uniform Beating.
- The lowest cost per pound of quality Fondant.
- It's Lifetime equipment.

"There is No Substitute for Experience".

JOHN WERNER & SONS, INC.

713-729 Lake Ave. **Rochester 13, N. Y.**

• **Mary Oliver Candy Co.,** New Haven, Conn. suffered a severe loss when fire wiped out its entire Mother's Day stock. The damage was estimated at $50,000. The blaze apparently was started by an explosion in the starch room so the Fire Marshall announced.

• **Hollywood Brands, Inc.,** Centralia, Ill. filed suit for $1,000,000 against Columbia Broadcasting System. The complaint alleges that CBS failed to carry out a television contract calling for the showing of a "junior circus" over 38 stations starting January 27th. Only one program was presented, it is claimed, and this was not telecast.

• **Hershey Chocolate Corp.** plans an extensive expansion of its facilities over the next years amounting to around $5 million. P. A. Staples, president, announced the construction plans at the time the sales figures for 1950 were released. Sales in 1950 were 148,924,922 as compared to $142,180,408 in 1949.

• **Louise M. Haut** of New York won a prize for the best presentation on "How I would advertise a new candy product." The award was presented by the Advertising Women of New York. Miss Haut created a mythical candy product and made a complete presentation as to how it could be packaged and sold throughout the country.

• **Imperial Candy Co.,** Seattle, received a certificate of merit for the excellency of their outdoor advertising.

COCOLINE'S

CHOCOLATE COATINGS
COCOA POWDERS
SPECIALTIES

COCOLINE PRODUCTS, INC.

40-20 22nd ST. LONG ISLAND CITY 1, N. Y.

ARC. Convenes June 3-6

Wm. C. Blatner
Secretary of
Associated Retail
Confectioners

The convention program was given in the April issue of *The Manufacturing Confectioner.* The "House of Friendship" opens the convention on Sunday evening, June 3rd. Sessions start Monday and continue on through Wednesday, at the Drake Hotel, Chicago. The Allied Trades Exhibit will be at the Walton Room of the Drake Hotel.

How To Cut CLEANING Costs Told in Free Folder

HERE, in this fact-filled folder, you'll find sound suggestions you can put to work right away for reducing your plant and equipment sanitation costs. Real help on saving money in removing caramel from copper cooking kettles; descaling and desliming cooling and water-circulating units; cleaning floors, large equipment; sanitizing handling and processing units. As the first step in setting up a completely effective, low-cost cleaning and sanitation program—to protect purity and flavor of your product, send for a copy of this FREE 4-page Bulletin today. Oakite Products, Inc., 36C Thames Street, New York 6, N.Y.

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OAKITE
MATERIALS • METHODS • SERVICE
Technical Service Representatives in Principal Cities of U.S. & Canada

Don't Fail
To See
THE NEW MODEL FONDANT MACHINE
IN BOOTH 25
AT THE NCA CONVENTION

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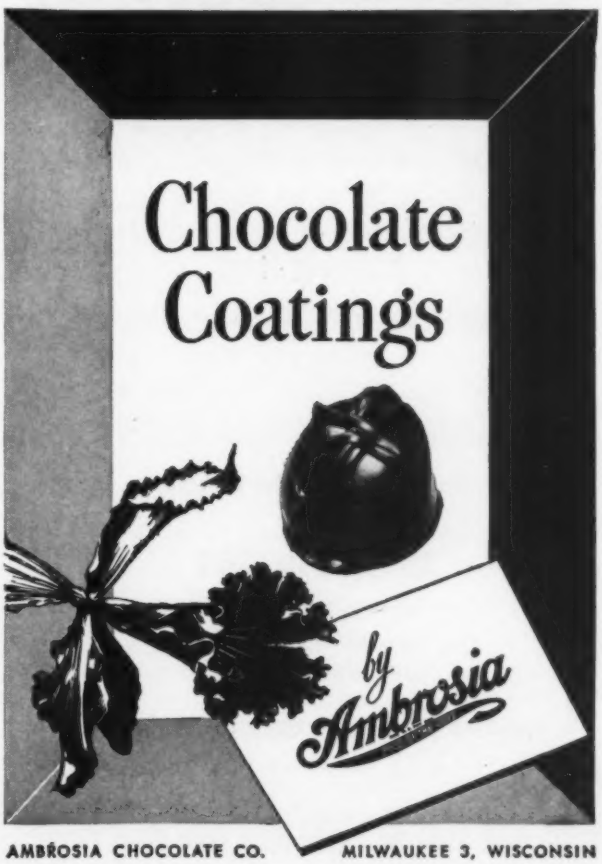

AMBROSIA CHOCOLATE CO. MILWAUKEE 3, WISCONSIN

to see the
COMPLETE WORKING MODEL
of a Corn Syrup Handling
System from Point of
Delivery to Point of Use

AT BOOTH 509

Confectionery Industries Exhibition
Hotel Stevens, Chicago
June 4th to June 7th

AMERICAN MAIZE-PRODUCTS COMPANY

• **C. H. Shaeffer,** late purchasing agent for Luden's, Inc., Reading, died recently. Mr. Shaeffer was associated with Luden's for 25 years, the past 20 years being purchasing agent. He was a member of the Purchasing Agents Association.

• **Peter Paul, Inc.,** has increased its sales for the first quarter of 1951 8% over last year. Stockholders of the company increased more than 700 during the last year and are now at the all-time high of 4,000, Mr. Tatigan reported at their annual meeting. A. R. Bixby, the company's sales representative in Buffalo, was elected a director. Walter P. Baldwin, a director and member of the executive committee, has been appointed assistant to the president, John H. Tatigan.

• **Wallace & Co.,** Brooklyn, through the president, Charles L. Payne, recently announced the following executive changes. Herbert L. Bebar has been appointed vice-president. He has been associated with the company since 1944 and will also continue as purchasing agent. John P. Joyce, formerly Metropolitan sales manager, has been promoted to general sales manager. He joined the company in 1947.

• **Universal Match Corporation,** St. Louis, elected S. M. Rosenberg formerly vice-president, as president. A wholly-owned subsidiary of the corporation is Schutter Candy Co.

• **Barricini Candy Co.,** New York, has opened one of three shops it will have on the I.R.T. Subway line in New York.

PRECISION BUILT ★ STAINLESS STEEL
HOPPERS

Precision Built for Lifetime Wear

Made entirely of heavy gauge stainless steel for a lifetime of rugged wear. All corners rounded for easy cleaning. Can be supplied as replacements for all types of depositors.
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Pump Bars
Depositors
Starch Machines

MILL RIVER TOOL CO.
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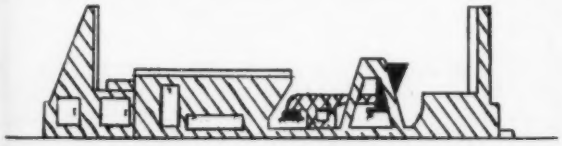
Supply Field News

• **Clinton Foods, Inc.,** has completed negotiations for the purchase of R. D. Bodle Co. of Seattle, Washington. This company was founded in 1918 and is one of the oldest frozen foods processing companies in the industry. It has several plants in Washington and Oregon.

• **Anheuser-Busch, Inc.,** St. Louis, through the president August A. Busch, Jr., has announced the appointment of Adalbert von Gontard, vice-president, to a newly created office of director of the sales of all products of the company. Von Gontard has been with the company 28 years and on the board of directors for 18 years. He was previously in charge of the yeast, malt and corn products division of the company. Arthur E. Weber will continue as general sales manager of the yeast, malt and corn products division under Mr. von Gontard.

Adalbert von Gontard, vice president, Anheuser-Busch, Inc.



Design for New Starch Machine

• **Mill River Tool Company,** Springfield, Mass., has advised John Sheffman, Inc., that they have on the drawing boards a revolutionary type continuous starch machine. Using less space than present machines, the unit will include stacker and loader. The loader is unique—handling full stacks or can

A WELL-DESIGNED PACKAGE

increases the Prestige of a company as well as the sale of its products.

CONSULTATION WITH US

regarding the design of your packages may well prove worthwhile, and carries with it no obligation.

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Proven in the Candy Field

DESICCITE #25

prevents moisture damage

Manufactured by FILTROL CORPORATION

General Offices: 727 West Seventh Street, Los Angeles 17, California

coffee forte

candy flavor

coffee cost in half . . . users like taste better!

coffee forte is a mellow blend of select coffees, fortified with other natural extractives which build up such a potent coffee flavor that you use less than half as much as pure coffee concentrate. Per pound, it costs only 5 percent more. Those who try it stay by it. Demand details quick!

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- Shelled Nuts
- Favorite Brand Vanilla Extract

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Heavenly Sm-o-o-th!

Angels could do no more than AVENEX* to give your fudge that "melt-in-the-mouth" creamy smoothness . . .

AVENEX also protects against sugar crystallization and graininess.

Also, because of its fine antioxidant quality, AVENEX helps protect the original fresh flavor of all candies containing cream, milk or butter.

All this without increasing your cost!
Send for particulars and free sample.

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250 West 57th St., New York 19

Originators of Commercial Food Antioxidants
AVENEX
THE PURE FOOD STABILIZER AND ANTIOXIDANT

be "split-fed" for color work.

Moving printer and swinging depositor will assure 25 boards per minute, as the board moves continuously through starch machine.

• **William T. May, Jr.,** sales manager in charge of all container operations of Robert Gair Co., New York, has been elected a vice-president of the company. Mr. May started with the company in 1921 in the sales department.

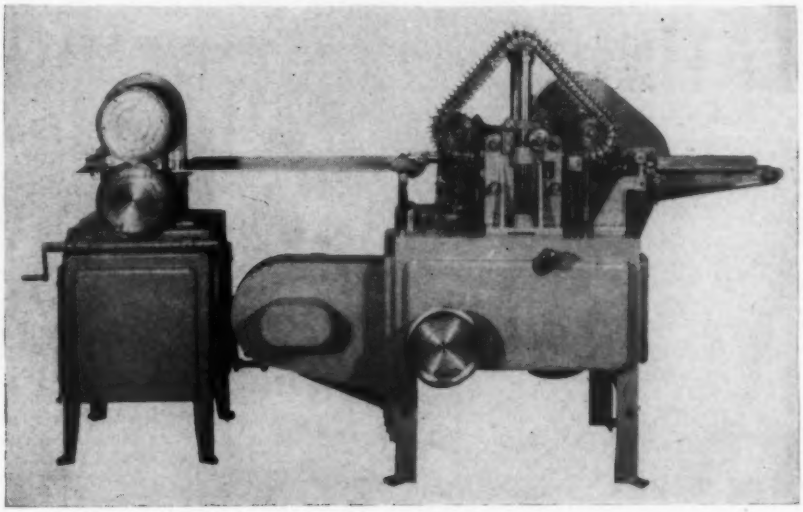
• **The Lynch Corporation,** Toledo, elected F. K. Zimmerman, formerly Secretary-Treasurer, as president following the resignation of M. H. Pendergast. Mr. Pendergast joined the organization in 1938 when they purchased Modern Equipment Corporation of which he was general manager. During the past ten years, Lynch has tripled its net worth and size of operations.

• **Riegel Paper Corporation's** Amateur Art Show drew 5,000 votes from visitors at the Packaging Exposition. Everyone of the 100 paintings on exhibit received some votes, demonstrating the well-known diversity of public taste. Over and over again the phrase came up "it may not be art, but I like it", but when the ballots were finally tabulated it was found that the public consciously and unconsciously picked a number of the same pictures that any art connoisseur might have selected. Nearly one-half of the entries came from top executives but visitors were apparently more interested in the pictures than who painted them. First award went to Clarence

Finest Production Equipment for the Candy Industry

The *Latini* Chain Type Plastic Machine

- High speed plastic machine, capacity up to 1000 lbs. per hour.
- New type chain designed extra heavy, with all hardened and ground pins and bushings, guaranteed not to stretch.
- Completely equipped with "sealed for life" ball bearings and variable speed transmission.
- Sizer electrically heated and equipped with ball bearings and variable speed transmission.
- Single and assorted chains available. Chains also made for special dies.

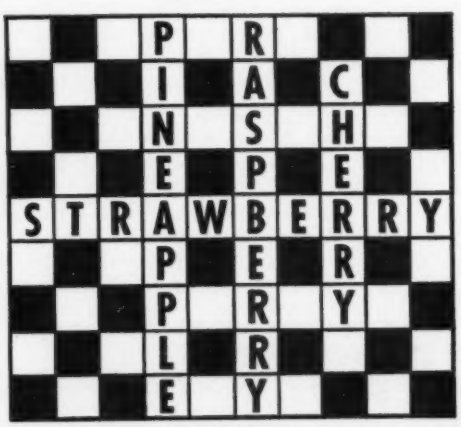


Visit Us At Booth 20 — NCA Exposition

Chocolate Spraying Co., Inc.

2035-39 W. Grand **Chicago, 12, Ill.**

... Puzzled??...



Imitation

TRUTASTE FLAVORS

ARE THE SOLUTION

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NEUMANN·BUSLEE & WOLFE INC.

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F. Prince of the Engineering Dept. of Package Machinery Co., East Longmeadow, Mass., for his oil painting "Birch Family", showing a very lovely sylvan composition of birch trees. Second award went to Joseph Rodowicz of the Printing Dept. of National Folding Box Co., New Haven, Conn. His entry was a remarkable contrast to the winner and showed a group of European peasants with the title "Homeless". There were eleven honorable mentions. The Art Show was developed and handled by Floyd Triggs, advertising manager of Riegel.

• **Arthur E. Fest** has been appointed New York representative of the bulk and confectionery divisions of the Walter Baker Chocolate and Cocoa Division of General Foods, as announced by H. O. Frye, general manager. Mr. Fest succeeds the late

Arthur E. Fest,
New York Representative
Walter Baker Chocolate
Division General Foods Corp.

Herbert Thiele who died suddenly on March 29. The territory under Fest's supervision will include metropolitan New York, Long Island, Westchester County and the northern half of New Jersey.

Mr. Fest joined Walter Baker in 1938 and since

NEW REVOLVING PAN

by

LATINI

See Us at Booth 20

- heavy gauge copper machine spun bowl
- convenient on-off switch with overload switch
- shaft mounted on self-aligning ball bearings
- stand enclosed, easily cleaned. Sanitary
- perfectly balanced for accurate operation

CHOCOLATE SPRAYING CO., INC.

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Rep. John Sheffman, 152 W. 42nd St., New York 18, N. Y.

5 ROLL REFINER H. M. S.

INSTALLATIONS

In Successful Operation in Chocolate Plants in the United States and throughout the world.

PERFORMANCE

A Smoother Chocolate. Refines to the Greatest Fineness Ever Obtained. Utmost Uniformity and Production.

Booth 16--June 4-7

Confectionery Industries Exposition, Stevens Hotel, Chicago

Exclusive Representation in the United States and Canada and Manufacturers of the Widely Used Bramley Mill.

Bramley Machinery Corporation

880 River Road Edgewater, N. J.

then has served as sales manager of the confectionery products division and as a vice president and general sales manager. Mr. Fest will continue the late Herbert Thiele's sales and office organization. The territory will be served from the present offices at 601 W. 26th Street, New York City.

Field representatives of Sterwin Chemicals Inc., shown here (left to right) are: Fred Scherer, Chicago; R. Steele Sherratt, New York; Daniel Smith, Washington, D. C.; Keith Baldwin, New York; Michael Padley, New York. The five comprised the committee on vanillin and certified food colors.

• **Sterwin Chemicals Inc.,** New York, has employed a new technique in sales conferences, designed to "turn the meeting over to the field representatives" for the development of ideas beneficial to concerns served by the company, according to P. Val Kolb, president. At the company's annual five day sales meeting just completed, sales representatives from offices in 13 cities were formed into seven committees, which reported recommendations for new packaging, aids for users of the products, advertising, sales policies and new markets. Chairman of the committee on Sterwin's Zimco brand of Lignin Vanillin and Parakeet brand of certified food colors was Keith Baldwin, New York City. Lee F. Soklich, Los Angeles, was chairman of the committee on bulk vitamins. Jack F. Bozman, Atlanta, headed the committee on sanitizing agent. William X. Clark, sales manager of Sterwin, and Edward P. Hassler, assistant sales manager led discussions. Following the meeting, Mr. Kolb reported that demand for Zimco Vanillin is currently exceeding plant capacity, but that all regular customers are receiving full delivery on contract commitments. Represent-

For DUTCH PROCESS Cocoa and Chocolate...

SOLVAY Potassium Carbonate

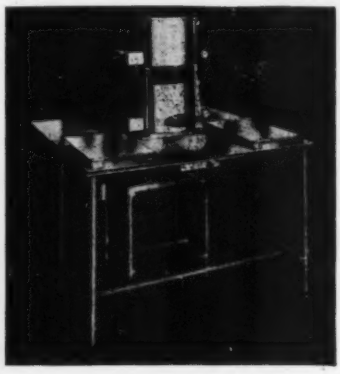
Dustless Calcined 99%-100%

Hydrated 83% 85% Liquid 47%

SOLVAY SALES DIVISION

Allied Chemical & Dye Corp.

40 Rector Street, New York 6, N. Y.



RESCO Chocolate Tempering Mill & Stainless Steel Dipping Table

- Increases production of hand dipper 25 to 30%
- Insures high standard of gloss and uniformity of appearance
- Automatically melts and tempers 100 pounds of chocolate
- Table constructed in two sections each equipped with automatic side-warming units to accommodate one dipper
- Standard table size 48" x 48"

OTHER PRODUCTS

RESCO 350 pound Stainless Steel Chocolate Melting and Tempering Units

RESCO Stainless Steel Bon Bon Dipping Tables

RESCO Sanding Machines for Gum or Marshmallow work

RESCO Marshmallow Beaters

HALBERG Automatic Hard Candy Equipment

SANATRAY Starch and Candy Trays
Stainless Steel Steam Jacketed Mixing Kettles
Chocolate Tempering Tubes

Also other Equipment for the Manufacturing Confectioner

REBUILT EQUIPMENT · ENGINEERING AND PLANT LAYOUT SERVICE

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ROBERT E. SAVAGE CO.

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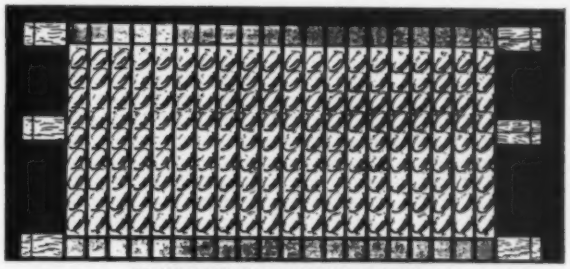
ing the various districts were: Lee F. Soklich, Los Angeles; Peter V. Metcalf, Dallas; J. A. Revord and Fred Scherer, Chicago; Paul Callison, Portland, Ore.; Lyle P. Carmony, St. Louis; N. J. Stromstad, Minneapolis; Jack F. Bozman, Atlanta; L. R. Patton, Buffalo; Daniel Smith, Washington, D. C.; W. O. Edmonds, Charlotte, N. C.; L. L. McAninch and James M. Doty, Kansas City, Mo.; Gordon Weed, Philadelphia; R. Steele Sherratt, Keith Baldwin, Michael Padley, New York City; and C. E. Noe, Boston. William Miles in charge of certified food color production at the Hilton-Davis plant was also present. R. H. Lingott of Chicago was unable to attend due to illness.

• **Oakite Products,** New York, have issued an interesting discussion of how steam-detergent cleaning saves time and work and helps cut costs in connection with industrial maintenance operations.

The folder defines steam-detergent cleaning as the simultaneous application of three different actions: (1) the physical action of steam pressure and hot water working their way through successive layers of grease and dirt; (2) the dissolving action of heat on oils, greases and other deposits; and (3) the chemical action of the detergent in penetrating, wetting and emulsifying surface deposits. This simultaneously-applied combination of efficiency factors, the folder asserts, provides the ultimate in cleaning speed and thoroughness. The folder also supplies detailed specifications of the types of steam-cleaning equipment available from this manufacturer, and offers helpful data on the



ALUMINUM CANDY MOULDS
CHEAPEST, MOST PRACTICAL AND ECONOMICAL MOULD MADE
Now with a NEW FINISH
which eliminates break-in time
CINCINNATI ALUMINUM MOULD CO.
Dept. M, 1824 Dana Ave., Cincinnati 7, Ohio

Nestlé's Snowcap
New Light Milk Coating

DISTINCTIVE MILK FLAVOR!
(Not Chocolate)
Ingredients: Milk • Cocoa Butter
Sugar • Flavoring
Use the same as Milk Chocolate Coatings—Write for Samples
Nestlé's Chocolate Company, Inc.
60 Hudson St., New York 13, N. Y.

preparation of efficient working solutions for use with this equipment. Readers desiring free copies of this folder may obtain them by addressing Oakite Products, Inc., 36C Thames St., New York 6, N. Y.

"Joseph H. McNamara, who retired in 1945 as General Sales Manager for The Hubinger Company, died April 22 after a prolonged illness. "Joe Mac" as he was widely known, became associated with The Hubinger Company in 1909, where he remained until failing health made it necessary for him to retire.

• **The Aromilla Company,** New York, has just released a complete report on vanilla flavoring tests, using the latest scientific method, Organoleptic Profiles. It gives step-by-step accounts of the tests conducted by Foster D. Snell, Inc., well-known New York research organization, in evaluating pure vanilla, vanillin-coumarin solution, and Aromanilla. Even though this particular series of tests was made on pound cake, it will be of interest to manufacturers of other flavored products, since most of the results produced by vanilla flavoring take place in all types of products. For instance, one sees how skilled taste panels evaluate flavors according to (1) characteristic notes of aroma and flavor; (2) the order of the appearance of these notes; (3) their strength, and (4) the total flavor effect. These notes are diagrammed so that flavor results are shown in easy-to-grasp pictorial form. Free copies of this Organoleptic Profile Report are available to all in the food industry interested in more scientific methods of ingredient evaluation, at The Aromanilla Company, Inc., 6 Varick Street, New York 13, N. Y.

MERCKENS

Makers of Fine Chocolate

MERCKENS CHOCOLATE COMPANY, INC.
BUFFALO, NEW YORK
BRANCHES AND WAREHOUSE STOCKS IN
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Starch Trays
• *At their best!*
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Masonite and Solid Wood Tongue and Grooved Glued Bottoms Nailed—Cement Coated Drive Screws—Lock Corner and Waterproof Glued Hard and Soft Woods

also: Dipping Boards—Starch Tray Dollies
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HIGH-SCORE
BUTTER-SCOTCH FLAVOR
More Luscious Than Vanilla!

Always Wins High Honors for Fine Taste!

PRODUCERS AND PACKERS OF FOOD SPECIALTIES
Ferbo Co.
GREEN VILLAGE N J
MANUFACTURERS OF FINE FLAVORINGS

TYPICAL MILK PRODUCTS ANALYSIS

PRODUCT	BUTTER FAT	WATER	PROTEIN	MILK SUGAR	LACTIC ACID	MINERALS
FLUID WHOLE MILK	03.80	87.50	03.30	04.75		0.65
FLUID SKIM MILK	00.10	90.80	03.60	04.80		0.70
CREAM (20%)	20.00	72.50	03.00	04.00		0.50
CREAM (30%)	30.00	63.40	02.60	03.50		0.50
CREAM (40%)	40.00	54.50	02.00	03.00		0.50
PLASTIC CREAM (80%)	80.00	18.40	00.50	00.80		0.30
MILKFAT (BUTTEROIL)	99.90	00.10	00.00	00.00		0.00
BUTTER (UNSALTED)	80.50	18.50	00.40	00.50		0.10
BUTTER (SALTED)	80.50	16.50	00.40	00.50		2.10
BUTTERMILK	00.50	91.00	03.50	04.50		0.50
WHOLE MILK POWDER (28%)	28.20	02.00	25.80	38.00		6.00
WHOLE MILK POWDER (26%)	26.20	02.25	26.40	39.15		6.00
NONFAT DRY MILK SOLIDS	00.75	03.00	37.55	50.50		8.20
SWEET CREAM BUTTERMILK POWDER	05.00	03.50	35.90	47.80		7.80
HIGH ACID BUTTERMILK POWDER	06.00	04.20	35.80	40.10		8.40
DRIED CREAM	71.00	00.70	11.00	14.50		2.80
DRIED WHEY (ROLLER)	01.00	04.80	12.80	72.40		9.00
PLAIN CONDENSED WHOLE MILK	08.50	70.00	07.80	11.90		1.80
PLAIN CONDENSED SKIM MILK	00.45	70.00	10.95	16.20		2.40
EVAPORATED MILK	07.90	74.10	06.60	10.00		1.40
SWEETENED CONDENSED WHOLE MILK (SUCROSE 44.0%)	08.50	28.00	07.50	10.50		1.50
SWEETENED CONDENSED SKIM MILK (SUCROSE 47.5%)	00.50	28.50	08.80	12.70		2.00
LOL CONDENSED BUTTERMILK	02.00	73.00	10.00	07.80	5.0	2.20
LOL FORTIFIED CONDS. BUTRMILK	02.00	64.00	10.00	16.50	5.0	2.50

Dairy Products in Confections

(*Continued from page 44*)

words, the object in many dairy manufacturing operations is the cooking off of excess water which is certainly present when fluid milk is used, and is generally not desired by the candy maker.

The Various Types of Dairy Products

With that preliminary discussion on the composition of milk, it is evident that the dairy industry must use this raw material (fluid milk) to produce products that can be used by people such as you. As a result of a series of controlled processes such as *centrifugal separation, churning, fermentation, evaporation,* and *drying* practically any of the individual constituents of milk in whatever proportion is desired can be made. In other words, separation removes cream from whole milk. Churning separates the fat from the non fat solids in the cream. Fermentation makes possible the removal of lactose and albumin from the butterfat and casein of cheese. Evaporation, removes water from either or any of these products and finally, drying will produce essentially a moisture-free powder.

Based on these manufacturing processes, the dairy industry has essentially five classes of products to offer its customers.

1. *Fresh fluid products* such as, pasteurized milk and cream for home use. As mentioned earlier, this class of dairy products, because of their perishability, their excessive water content, are not generally preferred by the candy maker.
2. *High butterfat containing products* such as butter, plastic cream, pure milk fat, frozen cream, etc. These, of course, have their value in providing a source of fat and milk flavor for the candy maker. They are quite highly concentrated, contain relatively little water, but should be stored under some degree of refrigeration.
3. *Fermentation products—cheese*—I mention these merely as a matter of continuity. They are of little concern to the candy maker, with the possible exception of various concentrated whey products that have received some attention by candy makers in recent years.
4. *Condensed products* such as sweetened condensed

TYPICAL ANALYSIS OF NONFAT DRY MILK SOLIDS

Protein	37.55%
Lactose (milk sugar)	50.50%
Minerals	8.20%
Fat	.75%
Moisture	3.00%
Total	100.00%
Vitamin A	165 I.U./lb.
Riboflavin	9.2 Mg./lb.
Thiamine	1.6 Mg./lb.
Niacin	4.2 Mg./lb.
Pantothenic Acid	15.0 Mg./lb.
Pyridoxine	2.0 Mg./lb.
Biotin	0.2 Mg./lb.
Choline	500.0 Mg./lb.
Strepogenin	1700.0 Mg. units/gram
Calcium	1.31%
Phosphorus	1.02%
Energy (Calories per lb.)	1630.

TYPICAL ANALYSIS OF DRY WHOLE MILK

Proteins (Nitrogen x 6.38)	25.80%
Minerals (Ash)	6.00%
Lactose (Milk Sugar)	38.00%
Fat	28.20%
Moisture	2.00%
Total	100.00%
Vitamin A (I. U. per lb.)	4950.
Riboflavin (Mg. per lb.)	6.7
Thiamine (Mg. per lb.)	1.2
Niacin (Mg. per lb.)	3.1
Ascorbic Acid (Mg. per lb.)	44.0
Pantothenic Acid (Mg. per lb.)	13.0
Biotin (Mg. per lb.)	0.185
Pyridoxine (Mg. per lb.)	1.5
Choline (Mg. per lb.)	400.
Strepogenin (Mg. units per gram)	1300.
Calcium	0.97%
Phosphorus	0.75%
Energy (Calories per lb.)	2260.

whole and skimmilk and plain condensed whole and skimmilk. This is undoubtedly the class of dairy products most widely used by your industry. These products possess certain characteristics which make them suitable for the confectioner. They can be purchased to suit almost any formulation, can be added to the formula without the addition or removal of water, and are generally very adaptable. They are, however, subject to deterioration—both physical and bacteriological, and can vary in quality from one lot to another.

5. *Dry milk products*—which include dry whole milk, nonfat dry milk solids, and dry buttermilk. These represent a group of products of the most highly concentrated form. I would like to say here, that if I dwell a little more heavily on this particular group of dairy products, it is because that is the one with which I am the most familiar. Dry milks, dry whole milk, nonfat dry milk solids, and dry buttermilk possess certain qualities that have made them both popular and unpopular with various industries. I am sure you are all familiar with the reputation milk powders gained during World War II amongst our troops. Yet in spite of this you may be surprised to hear that nonfat dry milk solids is today meeting with a most encouraging acceptance by the American housewife. The same can be said for the baking industry. Not many years ago the use of powdered milks by bakers was an unpopular idea. Today, the baking industry, is the largest single user of nonfat dry milk solids.

We in the dairy industry, like to believe, and I think have reason to believe, that this is the result of progress made through cooperation with the various users of our products, to determine the kind of products needed and preferred by our customers.

As an example of that let's refer for a minute to the baking industry. A considerable number of years ago, the baker was sold on the values of milk solids in bread. In practice, however, he would very often experience much difficulty with his bread doughs when milk was used. He had no alternative but to point to milk and say "there's my trouble". Unfortunately he was all too often right.

Since that time, through cooperative work between bakers, dairymen, and as a result of fundamental research conducted by many Universities, we have learned that there are certain characteristics which must be present in milks, whether they be condensed products or powders, in order that they perform properly in the bakery.

It has been conclusively proven that the albumin of milk must be denatured when milk is used in bread doughs in the bakery. This protein, if present in its natural or undenatured state, causes softening and weakening of a bread dough. Knowing this, and knowing that certain processing treatments of milk will denature albumin protein, we have been able to make and supply the baker with the type of milk solids he needs and is certainly entitled to get.

We, in fact, have developed specified tests whereby we can measure the degree of denaturation of this albumin protein, and are supplying the baker with a nonfat dry milk solids specifically tailored to his needs.

The Dry Milk Industry has followed this same reasoning in supplying the dairy users and the canning people. It is my belief that the milk condensing people have done the same.

I have gone to some detail in discussing the use of dry milks by the baking people in order to illustrate a point, by analogy if I may; namely that there may be milk products both condensed and dried that could be processed to meet your specific needs as confectioners. You may for example prefer a milk concentrate of the *low heat* type where the proteins remain in their undenatured state. Or for some products you may prefer a *high heat* type where many of these proteins are denatured.

At this point I might say the Dry Milk Industry has an organization called the American Dry Milk Institute, whose objective is to conduct research aimed at the development and utilization of dry milk products. They

have a fine technical staff who are always most willing to assist in any problems you may have pertaining to the use of dry milks in candy.

I would like to take the remaining minutes to talk a little more specifically on a few practical aspects of the use of milk powders.

I suppose the biggest question in the minds of most people is the difficulty involved in the reconstitution of milk powder. For this reason we usually recommend that milk powder be added to any formulation in the dry form just as you would add sugar or any other dry ingredient. For you folks in the candy industry, I am a little skeptical about making such a recommendation. In talking to candy makers the general feeling seems to be that dry milk should be reconstituted before adding to a candy batch. The reason usually being that this results in a candy with smoother body and less scorching than when milk is added as a powder. The decision on this of course, depends also on the type of confection being made.

As for specific methods for reconstituting milk powder, there are two that can be used depending upon the size of operation. For a small operation requiring ten, twenty, or thirty gallons of reconstituted product, a simple hand whipper is as good a piece of equipment as we know of. Simply weigh or measure out the amount of water wanted, add the required amount of milk powder, and whip it in.

If the operation is somewhat larger, a tank or vat can be used with a circulating pump which will break up practically all milk particles when the mixture passes through. There are many variations of this procedure that have been used where the water-milk solution can be pumped from a mixing tank to a storage tank through various screens etc. The best method for any specific operation must necessarily depend upon the equipment and facilities available. Using systems such as these we have made reconstituted condensed milks with solids contents of as high as 50%. It should be recognized, however, that some definite provision should be made for reconstituting a powder, unless it can be used in the formula dry.

While on the subject of reconstitution, I might say our Research Department has done considerable work on increasing the particle size of milk powders. As a result of this we are now able to make milk powder of a larger particle size than we were previously. This is a definite aid to greater ease of reconstitution, in that it makes the powder more free flowing than when the particle is fine.

When reconstituting milk powder the problem is actually one of dispersibility rather than solubility. A large particle is no more soluble than a small one, but does seem to be more dispersible.

Type of milk powder to use—I mentioned earlier the effect of heat treatment on the protein structure of milk solids. This I believe should be of concern to you people. The dry milk industry is in a position to supply either a high heat or a low heat type of nonfat solids to its customers. In the former the albumin and possibly some of the casein is already coagulated. In the latter, the low heat type solids, the albumin and casein are in their undenatured or natural state.

The Condensed milk people do this same thing. However, I believe it is not generally recognized that this is possible in the case of dry milk, and that is why I mention it here. I think a good low heat nonfat dry milk solids may have many possibilities in the candy industry, especially as a reserve supply or where costs, transportation, or storage problems exist.

Finally, the question is usually asked, How do I know how much fluid milk, condensed milk, or dry milk to add to secure the quantity of solids I want in my formulae? To assist you in this we have prepared for you a sheet showing the typical analysis of the various dairy products. From it you can determine the approximate composition of any dairy product you are now using and by simple arithmetic convert it in terms of fat, protein, or lactose, to any other product you may be interested in to use as an alternative.

This can also be used in evaluating the relative costs of the dairy products you buy. I suspect there are times when the cost of one type of product as compared to another will make it advantageous to consider that possibility.

I have attempted to cover a very large field in this brief period of time. I hope you have picked up a few bits of information as a result of it. I think I can say, we as an industry are most anxious to serve you and are always trying to produce products of a quality that will be best suited for your needs.

• **Dr. Leo Freundlich** who was chief chemist of Hooton Chocolate Company for 20 years is no longer connected with them. Rumors that he will continue with Hooton as a consultant were premature and unfounded, according to Dr. Freundlich. He expects to become connected again with a company where his knowledge and experience pertaining to the manufacture and use of cocoa and chocolate products can be applied.

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The Pennsylvania Manufacturing Confectioners' Association will hold its fortieth annual meeting and convention on June 21, 22 and 23 at Galen Hall Hotel, Wernersville, Penn. The annual golf tournament will be Thursday afternoon, June 21st. The committee on arrangements has been appointed as follows: J. A. Bachman, Bachman Chocolate Mfg. Co. of Mt. Joy as chairman and Col. C. L. Supplee, Frantz Candies Inc., A. G. Peterson, Corn Products Sales Co.

• **Arthur A. Mulligan** has recently become a member of the sales staff of Felton Chemical Company, Brooklyn, according to Frank Brumburgh, sales manager.

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While attending the convention, we invite you to relax and rest at our Booth #9, Stevens Hotel, also to visit in our suite at the Stevens.

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FOR SALE: Package Machinery DF Bar Wrapper. In fine condition. Box No. 619, **The MANUFACTURING CONFECTIONER.**

FOR SALE: National Wood Mogul and over 2,000 starch trays. Available for inspection. Box No. 6110, **The MANUFACTURING CONFECTIONER.**

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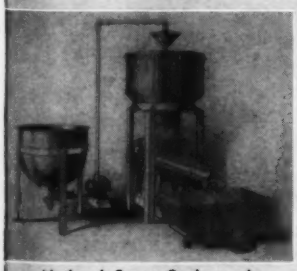

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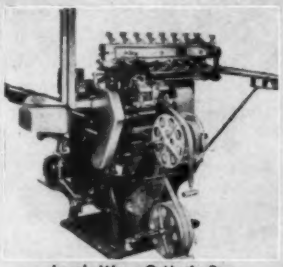

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Savage 200 lb. Marshmallow Beater.

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Poundage and Dollar Sales Percentage by Type of House—March, 1951 and 1950

The Bureau of the Census, Department of Commerce, announce that the March preliminary figures indicate little change from last year in total dollar sales of confectionery manufacturers; poundage sales, however, were down 12 per cent. The greatest decline in terms of both poundage and dollar value was reported by general line houses, their dollar sales showing a decrease of 19 per cent compared with a 24 per cent decrease in poundage.

	Pounds	Dollars
Total	—12	— 1
Package goods	— 9	— 1
Bar goods	— 9	+ 3
Bulk goods	— 8	+ 6
General line	—24	—19

The figures in this release are preliminary and are based on reports from 117 commercial manufacturers.

February dollar sales of confectionery manufacturers were about 19 per cent above February of last year, the Bureau of Census announced at the week-end. Packaged goods and bar goods houses reported increases of 31 per cent and 21 per cent, respectively, while bulk goods and general line houses each reported an increase of 12 per cent.

• **H. Kohnstamm & Company** is celebrating its 100th anniversary and the founding and growth of this progressive institution is as interesting as the development and progress of American industry itself. In 1851 a young and enterprising immigrant boy by the name of Joseph Kohnstamm, opened a small store at No. 3 Tryon Row in the growing city of New York. The Kohnstamm family had been color chemists for many generations in Europe and Joseph Kohnstamm had an idea that his family background of experience in the manufacture of fine colors and his ideal of true service would prove a winning combination. His motto was "to build with honor and to serve with dignity." The fine quality of his ultramarine blue specialized in at that time made the business successful from the start. Later Joseph Kohnstamm was joined by other members of the family and the firm name changed to H. Kohnstamm & Company, and incorporated in 1922.

From the comparatively simple operation of importing and selling it was a logical step to manufacturing and distributing. The company saw in its own manufacturing processes the ability to better control the quality of its products. H. Kohnstamm & Company pioneered the development of certified colors for food products. National Confectioners' Association, holding its first convention in the year 1884, not only accepted these colors as standards for the industry, but endorsed them. After the standards established by Dr. H. Endemann, the eminent coaltar chemist and color scientist had been attained, every batch of color afterwards manufactured by H. Kohnstamm & Company was made to conform to his high standards of purity or was rejected. This was the beginning of harmless food colors in America and led later to the certification of such colors by the Bureau of Chemistry, Department of Agriculture, in the year 1907. This product of research by the Kohnstamm color chemists did much to remove fear and prejudice from the public mind regarding the use of color in candy and food products.

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Editorial

Pooling Ideas

ANY conference or convention has an underlying purpose, namely, that of conveying information or exchanging ideas. The recent Fifth Annual Production Conference at Lehigh was no exception. But, should we wait and withhold our ideas and impatiently marktime until the next conference? Supposing we need some vital information on the performance of some new equipment which we know is installed at a competitor's. Why can't we just phone our business rival?

Mr. Ciccone in *Pooling of Ideas in Candy Industry*, stated. . . .

"Willingness to exchange information and ideas is evidenced by the good attendance at Lehigh and at meetings of various local cooperating groups throughout the country.

"The candy industry has passed through various general stages of development from the retail candy kitchens to the relatively small plants which were required to make a complete confectionery line to the present modern plant. Increased volume and new merchandising methods have led to plant expansion and product specialization.

"Quality consciousness and the need for efficiency have resulted in changed candy production methods, speeding up and making process continuous. Quality has been improved by improvements of facilities and changes in procedure.

"Progress of the manufacturer has been obtained through the pressure of necessity, the accumulation of facts and data, research and the development of ideas. The application of science to the art of candy making has been aided immensely by the initiative and cooperation of our suppliers, through scientific instrumentation for the control of manufacturing process to produce consistently uniform products. Our raw material suppliers have added to the progress of the confectioner through the development of new ingredients and their efforts to supply us with substitutes when needed.

"However, in order for our allied trades to maintain progress through improvement of their products and service, it is necessary that they be well informed as to our ideas and requirements. The appearance of each new item should then open new fields of experimentation to determine possible uses which may lead to better products.

"Believing in competition should not interfere with our cooperation for the good of the entire industry. Getting together and discussing ideas will be useful to all and encourage eliminations of inefficiency.

"The road of least resistance would be to accept the old forms of candy and the old techniques, however, this does not lead to success and progress. Benefits to all are apparent for the entire industry through close cooperation and collaboration.

"I therefore urge that you meet with your local technological groups and offer opportunity to all interested to confer and study mutual problems."

The PMCA, Hershey Chocolate Co., Atlas Powder Co., Lehigh University and the Heidelberger Conf. Co., pooled a portion of their resources and conducted plant scale tests on modified chocolate coating. This is one example of what "Pooling" may accomplish.

The Kroger Company of Cincinnati at considerable expense and effort developed a special method of recovering candy trimmings. This company unselfishly permitted their method to be publicized by Mr. Childs at the Lehigh Conference so that confectioner manufacturers might benefit.

In summarizing, we might refer to the old saying, "It is more blessed to give than to receive." However, we have found that when we give some help, we are more than repaid.

THE Standard

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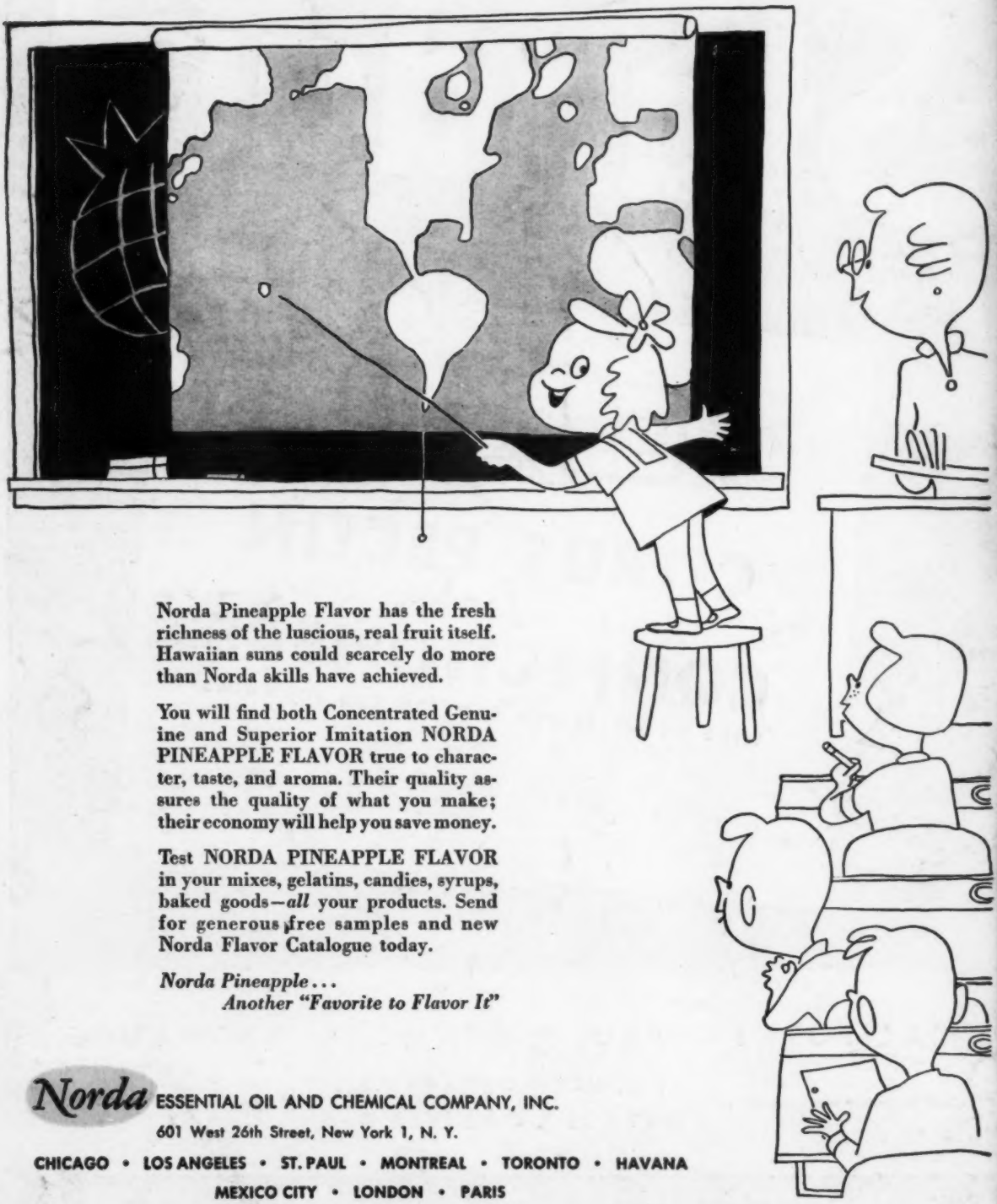

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